

## 3. Land Use and Transportation

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To achieve the vision for 2025, the City must organize and direct its future actions in the key areas of land use and transportation. This chapter sets forth policies and guidelines organized according to the Key Elements of the Vision (Chapter 2).

### 3.1 PROTECTING AND ENHANCING NATURAL, CULTURAL AND SCENIC RESOURCES

The first Key Element, “Honolulu’s natural, cultural, and scenic resources are protected and enhanced,” addresses the natural and cultural setting of the Primary Urban Center (PUC), the need for natural areas and open space, and the concept of an open space network that pervades urbanized areas and links them to the mountains and the shoreline.

**Section 3.1.1** examines the existing conditions and issues that affect these “heritage” resources and the open space network. **Sections 3.1.2** and **3.1.3** set forth policies and guidelines, and **Section 3.1.4** discusses the relationship of the policies to the maps.

#### 3.1.1 EXISTING CONDITIONS, ISSUES AND TRENDS

The mountains and shoreline that define the *mauka* and *makai* edges of the Primary Urban Center’s continuous urban corridor are the dominant elements of the open space system. Within the corridor itself, the open space system consists of volcanic craters, streams, and other water bodies, as well as the larger parks and campuses:

- ***Mauka* edge:** The Koolau Mountain Range and its undeveloped foothills and slopes.
- ***Makai* edge:** The shorelines and waters of the Pacific Ocean, Pearl Harbor (East Loch), Keehi Lagoon, Kapalama Basin, Honolulu Harbor, Kewalo Basin, and Ala Wai Harbor.
- **Volcanic craters:** Leahi (Diamond Head), Puowaina (Punchbowl) and Aliamanu; also, a minor crater remnant in Kaimuki.
- **Perennial streams:** Kapakahi Stream, Palolo Stream, Manoa Stream, Makiki Stream, Nuuanu Stream, Kalihi Stream, Kapalama Stream, Moanalua Stream, Halawa Stream, Aiea Stream, Kalauao Stream, Waimalu Stream and Waiawa Stream and their tributaries.
- **Other important water bodies and wetlands:** Kalauao Springs (watercress farm in Pearlridge area), Salt Lake, Nuuanu Reservoir and Ala Wai Canal.
- **Major parks and campuses:** Regional, beach, and large district parks; golf courses; large cemeteries; college and high school campuses; and the Civic Center.

These elements combine to create the extraordinary scenic setting that Hawaii's – and the Pacific Basin's – greatest city enjoys. Residents and visitors enjoy striking vistas from many vantage points and convenient physical access to beaches, coastal waters, hiking trails and other recreational spots. Open space features are an integral part of daily urban life, not only for their scenic quality and recreational value, but also because they act as directional reference points when traveling through the city. For these reasons, it is very important that they remain visible and accessible.

In future years, as development in the Primary Urban Center continues and obsolete buildings are replaced, the urban form can be shaped to preserve and enhance the natural setting and to improve visual and physical access to open spaces.

### **3.1.1.1 Natural Resource and Development Constraint Areas**

Most areas within the Primary Urban Center that have high natural resource value – such as habitats for native species, beaches, and water bodies – or that have unfavorable characteristics for urban development – such as steep slopes and unstable soils – are located within the State Conservation District and protected from urban encroachment. In general, protected areas include the mountains, the coastal waters and a few places within the State Urban District, such as Diamond Head, Punchbowl, Ala Wai Canal and Aliamanu/Salt Lake.

#### **URBAN STREAMS AND WETLANDS**

The State Urban District includes smaller-scale natural resource elements such as stream segments and wetlands. The few remaining wetlands in the Primary Urban Center are located near Pearl Harbor and are protected by Federal regulations. Most of the urban stream channels have been hardened with concrete and stone structures, and their banks are often devoid of vegetation. The degree of modification tends to be greater in downstream segments. Many of the upstream segments that run through single-family residential neighborhoods are still in relatively natural condition.

The purpose of stream modifications was to stabilize banks, provide flood protection for adjacent properties or accommodate bridges. While it is typically not feasible to return stream channels to their original state, it is possible in many cases to reintroduce natural elements such as shade trees along the banks, rip-rap lining and V-notched or unlined channel bottoms to the stream environment. Such measures mitigate impacts on biological habitat and improve the aesthetic quality and recreational value of urban streams. (See additional discussion in **Section 3.1.1.3, Stream Corridors.**)

#### **STEEP SLOPES AND UNSTABLE SOILS**

Development on steep slopes or unstable soils could result in adverse visual impacts or hazardous conditions. Most of the vacant lands in the State Urban District with these characteristics are located in valley and hillside neighborhoods. Where hillside locations have stable soil material, the primary impact is aesthetic, since structures built along slopes tend to be visually prominent and can interrupt the silhouette of the natural ridgeline when viewed from below. Building on the lower slopes of valley walls cannot

only have a visual impact, but can also be potentially hazardous. Where these valley locations have deposits of unstable soils, slow-moving landslides can cause property damage, prompting claims against the City – as has happened in both Manoa and Moanalua Valleys.

Incremental build-out of hillsides and lower valley slopes can also affect both natural and urbanized drainage systems. Increased lot coverage by larger buildings and more extensive paving increases the volume and rate of stormwater discharge. This problem is exacerbated in the *mauka* reaches of the valleys and hillsides, where rainfall is higher.

Over the long term, the cumulative impact of greater lot coverage threatens to erode or convert natural stream banks downstream by requiring expensive, aesthetically and ecologically undesirable structural hardening of the drainage channel or by exceeding the capacity of the drainage system, resulting in flood conditions. To prevent inappropriate development, hillside lands should be placed in preservation or low-density residential zoning districts. Such lands should also be subject to stricter development standards – such as maximum lot coverage and structural stability – than those that apply to level land.

Where hillsides and drainage channels have already been adversely affected by inappropriate development, remediation should be pursued by removing or repairing damaged or threatened structures on unstable slopes and selectively modifying drainage channels to introduce more natural elements (e.g., streamside trees, rip-rap lining, and V-notched or unlined channel bottoms).

### **3.1.1.2 Scenic Views**

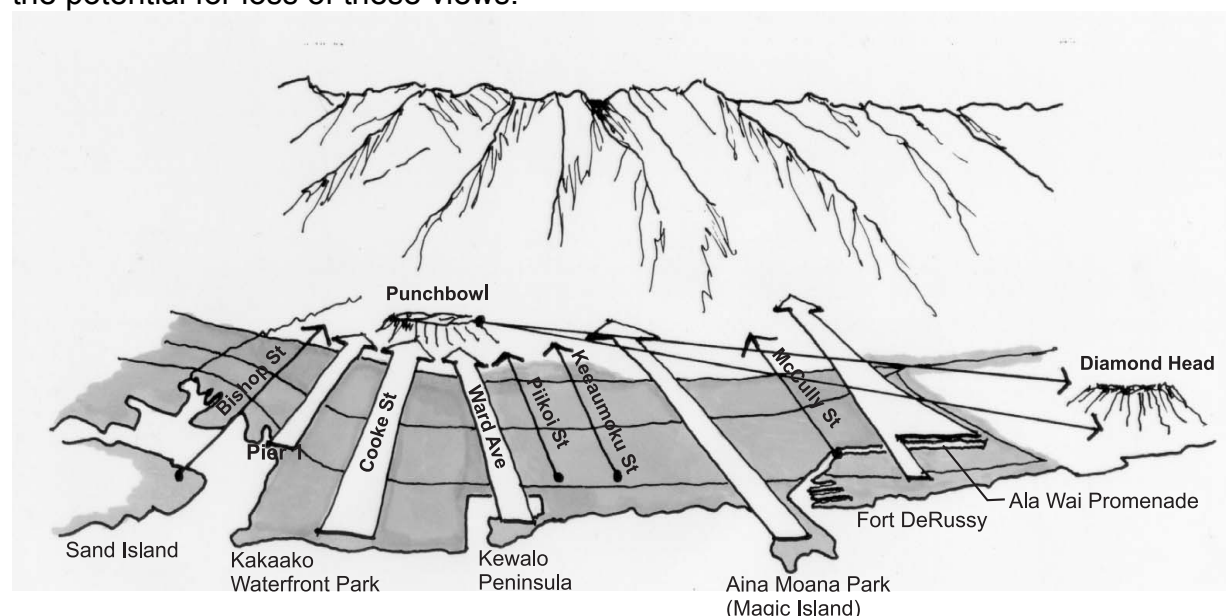
#### **PANORAMIC VIEWS OF NATURAL FEATURES AND LANDMARKS**

Panoramic views are broad vistas from distant vantage points. **Map A.1, Significant Panoramic Views**, depicts the vantage points and orientation of major panoramic views of the following view objects within the Primary Urban Center:

- The Koolau and Waianae Mountain Ranges and their foothills (notably, Red Hill and Puu Ualakaa, or Round Top);
- The Pacific Ocean, Pearl Harbor's East Loch, Ford Island, Honolulu Harbor, Keehi Lagoon and Kewalo Basin, and their respective shorelines; and
- The craters of Leahi (Diamond Head), Puowaina (Punchbowl) and Aliamanu.

In some areas of the Primary Urban Center – especially within central Honolulu – building height limits have been adopted specifically to protect viewplanes. Nevertheless, there are public places along the shoreline – such as Ala Moana Beach Park, Kakaako Waterfront Park and Kewalo Basin – and along the Ala Wai Canal where panoramic *mauka* views of the Koolau Mountain Range and Punchbowl are gradually diminishing as high-rise buildings in the Kakaako, Ala Moana and McCully-Moiliili

districts are developed to the height limits that are allowed there. Distant views of the Waianae Mountain Range and Pearl Harbor are less likely to be obstructed by intervening high-rise buildings, but there is no explicit regulatory mechanism to prevent the potential for loss of these views.



**FIGURE 3.1: VIEW CORRIDORS.** A diagram of *mauka* views from the shoreline and the view toward Diamond Head from Punchbowl Lookout.

## PANORAMIC VIEWS OF THE URBAN SKYLINE

Panoramic views of the urban skyline between Diamond Head and Pearl Harbor's Middle Loch – from arrival points by air or sea, from above the Koolaus, and from outlying areas to the east and west – reveal the relationship between the city and its open space elements. The skyline is an important aspect of the city's image. It establishes a distinctive identity for Honolulu, defines subdistricts within it, and provides a directional orientation.

The lateral extent of Honolulu's skyline is defined by Nuuanu Stream on the west and Kapiolani Park and Diamond Head on the east. At present, Downtown, with its taller profile and denser clustering of buildings emphasized by the low-rise profiles of the Chinatown and Hawaii Capitol Special Districts, is a visually prominent element of the skyline. Recent high-rise developments in Kakaako have begun to weaken this prominence. Kakaako's development regulations allow buildings that are as tall or taller as those Downtown, but the towers are not as closely spaced. As a result, a high-rise "picket fence" is emerging on the Kakaako skyline, making the distinction between Downtown and other districts less clear.

Over the next few decades, there is not likely to be significant change to the western and eastern ends of the skyline, which are the respective locations of Downtown and Waikiki. In the Downtown financial district, there are few remaining sites available for new high-rises. In Waikiki, most of the high-rise buildings exceed present building

height and density controls. While current regulations allow such “nonconforming” buildings to be redeveloped under limited circumstances, this will not result in appreciable changes to distant views of the skyline.

The Kakaako and Ala Moana districts, recognized as areas with substantial capacity for future urban development, are located in the central portion of the skyline. It is in these districts, as well as in McCully-Moiliili, where lower building height limits would not only help maintain the visual prominence of the Downtown skyline, but also promote a feasible and desirable building form.

The skyline in the western portion of the Primary Urban Center is less pronounced than in Honolulu. There is a cluster of high-rise buildings in the Pearlridge vicinity and an anomalous pair of apartment towers at Manana. Otherwise, buildings have a low profile. Redevelopment could affect the skyline in this area unless lower building height limits are established. It is desirable to keep the building profile low so that the Pearl Harbor skyline will continue to be visually subordinate to the Honolulu skyline and its mountain backdrop, which is lower than the Koolau ridgeline behind Honolulu.

#### **MAUKA-MAKAI STREET CORRIDORS**

Within the city, there are framed views – or view “corridors” – of the mountains and the shoreline along streets that are aligned in the *mauka-makai* orientation. The width of the street, combined with building setback requirements, create and retain these views. Unfortunately, streetscape elements such as overhead utility lines and signage significantly diminish the quality of the view in many instances.

Views of the mountains or shoreline along the street are important directional reference points for pedestrians and motorists, particularly for those who are not familiar with the City’s street system or urban landmarks. The undergrounding of utility lines not only enhances the visibility of the mountain backdrop, but also removes obstacles (i.e., utility poles) from the sidewalk and allows street tree canopies to spread without interference. It may also improve utility system reliability in certain circumstances.

Due to the cost and disruptive effects of underground installation, priority should be given to burying utility lines on the major collector streets and where *mauka-makai* view corridors are indicated in **Figure 3.1**. Preferably, undergrounding would occur concurrently with other major construction within the right-of-way.

#### **3.1.1.3 Access to the Shoreline, Mountains and Streams**

##### **STREAM CORRIDORS**

Portions of important streams that flow through Honolulu – Manoa Stream, Nuuanu Stream, Moanalua Stream and Kapalama Stream – have landscaped greenbelts and/or parallel pathways already in place. Extension and improvement of these pathways and greenbelts would complement efforts to reintroduce natural elements to the stream environment and would make them more useful components of the open space network for recreational use and short walking trips.



**FIGURE 3.2. STREAM CORRIDORS.** Stream corridors running through the Primary Urban Center offer potential for water recreation, such as outrigger canoe paddling, as well as for bicycle and pedestrian paths along the stream banks.

The design of greenbelts should vary along stream segments to respond to adjacent land uses and resolve security and maintenance issues. While a continuous *mauka-makai* pathway may not be achievable, priority should be given to the creation of streamside pathways where they would connect existing parks, hiking trails and bikeways, or provide a shorter, safer pedestrian route between neighborhoods or major land uses. Examples include Manoa Stream from Ala Wai Canal to Date Street and from the campus of University of Hawaii (UH) at Manoa to Woodlawn Drive.

### SHORELINE ACCESS

Public access to the shoreline, which is located at intervals of one-quarter mile or less, is adequately provided. Two beach right-of-ways, one from Paoa Place and one from Kalia Road, increase access to Waikiki beaches. East of Diamond Head in the residential neighborhood of Kahala, shoreline access is available from Kahala Beach Park, six pedestrian rights-of-way along Kahala Avenue, and a right-of-way from Kaikoo Place.

From Nuuanu Stream westward to Aiea Bay, access to the shoreline is largely preempted or constrained by Honolulu Harbor, the Honolulu International Airport, Hickam Air Force Base, and Pearl Harbor Naval Base. The Keehi Lagoon shoreline will receive greater visual exposure with the development of the proposed Sand Island Parkway as a new through route from the Airport to Waikiki. The State of Hawaii Department of Transportation (DOT) envisions the development of Keehi Lagoon and

its shoreline, including portions of Airport land, for recreational small-boat marinas and for viewing and competing in canoe and kayak paddling races. The State also proposes the development of a commercial “fishing village” at Pier 38, which would attract more people to a portion of the maritime industrial zone of Honolulu Harbor that presently receives little public exposure.

The need to enhance shoreline access is greatest in the more heavily developed portions of Honolulu and Pearl City, which are presently the centers of urban life and are expected to play an even more vital role in the future.

Within Honolulu, a continuous pedestrian route from Diamond Head to Downtown could be achieved by developing a beachfront promenade in Waikiki and by creating other relatively short connections between the chain of parks and promenades that now exist along the shoreline.

Lateral access in Waikiki would be more useful and feasible than additional pedestrian connections from Kalakaua Avenue and Kalia Road. Significant sections of a continuous beachfront walkway are already in place fronting Fort DeRussy, Halekulani Hotel, Sheraton Waikiki Hotel and portions of Hilton Hawaiian Village. The public sector should assume ultimate responsibility for the maintenance and security of such a highly public area because continuous, safe access for pedestrians and wheelchairs along the beach serves a clear public purpose.

Waterfront access should be a key component of any plan to redevelop Honolulu Harbor and the Kakaako district, revitalize Chinatown, and reconnect both Chinatown and Downtown to the historic waterfront. While the waterfront is within short walking distance of activity centers in Chinatown, Downtown and, increasingly, Kakaako, the design and operation of Ala Moana Boulevard – and especially Nimitz Highway – discourage pedestrians from crossing these thoroughfares. In addition, links need to be developed – especially in Kakaako – to fill gaps in the pedestrian route along the waterfront.

Within the Aiea-Pearl City area, continuous lateral public access to the Pearl Harbor shoreline would be greatly enhanced by acquiring lands *makai* of the OR&L right-of-way between Neal S. Blaisdell Park and Aiea Bay State Park, as identified in the *Pearl Harbor Historic Trail Master Plan*. While portions of this right-of-way are contiguous to the shoreline, intervening private lands and buildings at other points impair physical or visual access to Pearl Harbor.

## MOUNTAIN ACCESS

There are several points of public access to forested mountain areas within the Primary Urban Center, and they are fairly well distributed. Access to many of these trails is from State parks, where public parking and rest rooms are available. At other trailheads, parking is usually quite limited, and rest rooms or other amenities are not available.

The State also maintains lookouts at the summits of Nuuanu Pali and Puu Ualakaa (Round Top) for enjoying scenic vistas toward the shoreline. Both of these State parks, like most other State park facilities, provide picnic areas, potable water and public rest rooms, and prohibit overnight camping.

### 3.1.1.4 Public Parks and Recreation Facilities

Public parks and outdoor recreational facilities fall into two general categories: (1) islandwide and regional parks and (2) community-based parks. Islandwide, regional, district parks and other major open spaces are shown in **Map A.2, Open Space**.

All of the community-based parks are maintained, if not owned in fee, by the City and County of Honolulu. Many of the islandwide and regional facilities are under State or military jurisdiction, or are privately owned. Some of the private golf courses are not available for public play, but make a visual contribution to the open space system.

For the most part, community-based parks and recreation facilities in the Primary Urban Center's *mauka* residential neighborhoods meet – or come close to meeting – the land-to-population standard. However, there is a shortage of comparable facilities in the more densely populated areas along the coastal plain, especially for organized sports and other active recreation. As a result, people from these areas must travel to use parks and recreation facilities in other neighborhoods.

Due to the shortage of parkland in densely populated neighborhoods, much of the available space in community-based parks and regional parks such as Queen Kapiolani and Ala Moana is dedicated to facilities for intensive, active recreation. This often compromises the aesthetic and recreational value of parks as places for quiet enjoyment of the outdoors.

The design and programming of parks and recreation areas for the more intensively urbanized areas requires careful planning. Acquisition of significant additional park space is constrained by high real estate values, the limited number of vacant parcels with favorable characteristics for recreation use, and the cost and practical difficulties of alternatives such as the use of air rights over highways. With limited land area and



**FIGURE 3.3: CHILDREN ENJOY NEW PLAY EQUIPMENT AT A HONOLULU PARK.** Equipment like this provides exercise and entertainment for younger children, and is well suited to both large and small urban parks.

high-rise apartment buildings nearby, the light and noise generated by outdoor recreational activities can cause disturbances to residential neighbors. Unsupervised and unlighted parks can also attract crime and other problems associated with urban areas.

On the other hand, Honolulu's urban setting offers some advantages for expanding recreational opportunities in a number of ways:

- The City can enter into partnerships with the State Department of Education (DOE) and private, nonprofit organizations to jointly use, develop, or improve recreational facilities, including gymnasiums and other buildings designed for a variety of activities and programs.
- A large number of people can walk or ride transit to parks and recreation facilities, reducing the need for space-consuming parking lots and garages.
- The diversity of the population enables parks and recreational facilities to be designed and programmed for a variety of activities at different times of the day or simultaneously at different locations within a facility.
- The City's network of streets, shorelines, and streams can become linear extensions of parks by enhancing them with landscaping, special paving, and other features to support and promote recreational walking, jogging, and bicycling.

### **3.1.1.5 Other Urban Open Spaces**

#### **CEMETERIES**

Cemeteries, with their landscaped, park-like settings, are part of the open space network within an urban environment. The cemeteries that make the most significant contribution to the open space within the Primary Urban Center, due to their size and high visibility from major thoroughfares and other urban areas, are shown on the Open Space Map (**Map A.2**).

#### **CAMPUSES**

The campuses of almost all of the Primary Urban Center's private and public academic institutions contribute in some degree to the urban open space network. In addition, many other institutions such as churches and hospitals are situated on landscaped grounds that add to urban open space. The effect is often more pronounced when such campuses are adjacent to each other, creating an open space "cluster." Institutions with sizable and visible landscaped grounds include the University of Hawaii at Manoa, Punahou School and Chaminade College-Saint Louis School. The Open Space Map also shows the Civic Center, including the broad landscaped areas around the State Capitol, Honolulu Hale, Iolani Palace and other government buildings, as a campus-type of open space.

## PLAZAS

The Primary Urban Center's commercial districts, particularly Downtown Honolulu, contain landscaped plazas, which are situated on private property, and are accessible to the public. The plazas were created primarily by zoning code provisions that offer floor area bonuses for the development of public open space. As attractive venues for public events, informal meetings and quiet enjoyment, these plazas function as important elements of the urban open space system.

Successfully designed plazas typically include generous seating, shade and exposure to commercial activity. Such spaces are like an outdoor room, an open space enclosed by buildings. The best-used public open spaces are similar to the plaza behind Downtown's Dillingham Transportation Building. This plaza is a true "outdoor room" contained by building walls on three sides with people entering from three different directions – from Queen Street, from the neighboring office towers on Alakea Street, and from Bishop Street through the Dillingham Building arcades. Many more people actively use this plaza than use the much larger open space around the State Library or the Honolulu Municipal Building.

### 3.1.2 POLICIES

Establish and maintain an integrated open space network throughout the Primary Urban Center comprised of the following elements:

- ***Preserve historic and cultural sites.*** Preserve and protect sites that have high preservation value because of their good condition or unique features. Protection includes planning and design of adjacent uses to avoid conflicts or abrupt contrasts that detract from or destroy the physical integrity and historic or cultural value of the site. Retain, whenever possible, significant vistas associated with historic, natural and man-made features. Allow adaptive reuse of historic buildings to serve a new function and/or enhance interpretive value without destroying the historic value of a site.
- ***Preserve and protect natural resource and constraint areas.*** Establish an Urban Community Boundary to define the area for urban development. Place large contiguous areas of natural resource and constraint areas designated for Preservation, including all lands within the State Conservation District, outside of the Urban Community Boundary.
- ***Preserve panoramic views of natural landmarks and the urban skyline.*** Preserve views of the Koolau and Waianae Mountain Ranges, Punchbowl, Diamond Head, Pearl Harbor and other natural landmarks. Maintain important view corridors within and across urban Honolulu and keep Downtown as the most prominent feature of the urban skyline. Views along the Pearl Harbor shoreline and the Pearl Harbor Historic Trail toward the mountains, shoreline, significant landmarks, and adjacent communities should be created and maximized wherever possible and appropriate.

- **Improve access to shoreline and mountain areas.** Provide continuous lateral access along the Honolulu waterfront and around the East Loch of Pearl Harbor, where urban activity is most intense. Maintain access to mountain hiking trails and increase opportunities for nature education and camping.
- **Develop stream greenbelts.** Develop and maintain greenbelts and pathways along streams, especially those running from the mountains to the sea through central Honolulu, as visual and physical linkages between *mauka* and *makai* open spaces.
- **Provide parks and active recreation areas.** Develop and maintain parks and other outdoor public spaces in a manner that expands opportunities for both active and passive recreation. Increase and enhance recreational open space in the most densely settled parts of the PUC.

### 3.1.3 GUIDELINES

#### 3.1.3.1 Historic and Cultural Sites

- Preserve the architectural character, landscape setting and visual context of historic landmarks through appropriate zoning standards and development controls, as necessary, and public outreach programs such as design guidelines for the maintenance, renovation or expansion of older dwellings.
- Preserve and enhance the significant historic and aesthetic features of institutional campuses and campus clusters through zoning permit reviews for campus expansions or modifications.

#### 3.1.3.2 *Mauka* Conservation Areas

- Prevent development on properties with average slopes of 40 percent or more, and on lands with slopes of 20 percent or more where development of the site would have a significant adverse visual impact when viewed from parks, major public streets, and other public places.
- Maintain public access points and hiking trails on the slopes of the Koolau Range in the areas beyond the Urban Community Boundary, and improve amenities for hiking, camping and nature study.
- In Preservation areas, avoid disturbance to native species and prevent the visual intrusion of structures, including utility and telecommunications installations, when seen from below and from hiking trails.
- Ensure access for traditional and customary practices and gathering rights, consistent with the provisions of the Constitution of the State of Hawaii.

### 3.1.3.3 Urban Skyline and *Mauka-Makai* Views

- Maintain the visual prominence of important districts by allowing a greater height and massing of buildings, such as in the Downtown area.
- Apart from Downtown and other central Honolulu locations, promote mid-rise or low-rise scale for new buildings.
- Preserve the following panoramic views indicated schematically in **Figure 3.1** by establishing building height limits and setbacks that are based on viewplane analyses to determine the sight lines and desired view dimensions and characteristics:
  - From Ala Wai Canal Promenade toward the Koolau Range
  - From Ala Moana Beach Park toward the Koolau Range
  - From Kewalo Basin toward the Koolau Range and Punchbowl
  - From Kakaako Waterfront Park toward Punchbowl and the Koolau Range
  - From Punchbowl Lookout toward Diamond Head
- Preserve and enhance significant *mauka* or *makai* view corridors along major collector streets indicated in **Figure 3.1** through a combination of zoning controls and streetscape improvements.
- Increase line-of-sight opportunities towards Pearl Harbor – particularly the U.S.S. Missouri and the U.S.S. Arizona memorials.

### 3.1.3.4 *Makai* Access

- Provide continuous lateral shoreline access for pedestrians extending from Diamond Head to Nuuanu Stream, around Keehi Lagoon, and from Neal S. Blaisdell Park through Aiea Bay State Recreation Area.
  - Construct walkways along the Waikiki and Kakaako-Honolulu waterfronts.
  - Along the Pearl Harbor shoreline in Aiea and Pearl City, acquire privately owned properties and the Navy-owned McGrew Point *makai* of the Pearl Harbor bikeway for recreational use, and/or encourage complementary redevelopment with incentives for higher zoning in return for view corridors, extra open space, public amenities, and public access to the shoreline.

### 3.1.3.5 Stream Greenways and Drainage

- Establish riparian zones for all streams to prevent the encroachment of buildings and structures – other than those for drainage, flood control or recreational purposes – and to establish and enforce policies for the protection and enhancement of stream habitats and water quality.
- Develop streamside pathways to improve access to recreation sites and natural areas and provide safe, convenient pedestrian routes between neighborhoods. Stream segments to be considered for priority action include, but are not limited to, the following:
  - Aiea Stream: segment through former Aiea Sugar Mill site
  - Ala Wai Canal: both banks, entire length
  - Halawa Stream: segment near Aloha Stadium
  - Kalauao Stream: from Kamehameha Highway to Pearl Harbor's East Loch
  - Kalihi Stream: segment *makai* of H-1 Freeway
  - Kapalama Stream: segment *makai* of Kuakini Street
  - Makiki Stream: segment *makai* of Nehoa Street
  - Manoa/Palolo Streams: from Manoa Marketplace to Ala Wai Canal
  - Moanalua Stream: segment near Moanalua Gardens
  - Nuuanu Stream: from Kuakini Street to Honolulu Harbor
  - Nuuanu Stream: from Kuakini Street *mauka* to Kapena Falls
- In developing drainage and flood control, seek to limit stormwater velocity and reduce the transport of sediment and pollutants to coastal waters.

### 3.1.3.6 Parks and Recreational Open Spaces

- Recognizing that it is difficult to acquire additional park land in the PUC, develop innovative approaches to make optimum use of existing parks and recreation resources, such as:
  - Building partnerships between City, State and private, nonprofit organizations for joint use of facilities and complementary recreation programs.
  - Optimizing private sector contributions to open space through park dedication as properties are redeveloped.
  - Reassessing and reassigning, as appropriate, the use of existing park land.

- Promote linear connections in the recreational open space network by using existing public lands and rights-of-way, where possible.

### 3.1.3.7 Other Urban Open Spaces

- Maintain significant trees and landscaped open space within institutional campuses, cemeteries and other open-space uses that are visible from public right-of-ways.
- Enhance the entries and street frontages of cemeteries and campuses with trees and landscaping.
- Promote the development of plazas to fulfill park and open space requirements; provide floor area bonuses to encourage plazas in dense areas such as Downtown.

### 3.1.4 RELATION TO VIEWS AND OPEN SPACE MAPS (A.1 AND A.2)

Maps A.1 and A.2 show the Urban Community Boundary and the components of the regional open space system.

The **Urban Community Boundary** serves as a primary tool for the long-term organization and guidance of urban growth. To be fixed during the life of the plan (to the year 2025), the Urban Community Boundary is intended to define and contain the extent of urbanized or “built-up” areas designated “urban” by the General Plan. The purpose is twofold: (1) to provide adequate lands for facilities or other groupings of built uses needed to support established or developing communities; and (2) to protect lands outside of the Urban Community Boundary that have important natural, cultural, or scenic resource values.

Lands outside of the Urban Community Boundary include lands with important resource values – e.g., wildlife habitat, archaeological sites, significant landforms and landscapes critical to important viewplanes – as well as lands that may be hazardous for development of structures or whose development could lead to environmental degradation in surrounding or downstream areas.

The maps show the following components of the open space network:

- **Mauka Conservation Areas.** Lands within the State Conservation District, as well as some steep hillside areas and deep valley areas within the State Urban District are shown as outside of the Urban Community Boundary and are designated by the Preservation symbol on all of the maps.
- **Mauka-Makai Views.** Significant views are indicated on Map A.1, **Significant Panoramic Views**, by directional arrows originating from public vantage points.
- **Makai Access.** Existing and proposed lateral public easements along the waterfront are identified on Map A.2, **Open Space**.

- **Stream Greenbelts.** Major stream greenbelts are indicated on the map. However, the policies and guidelines concerning stream greenbelts apply to all perennial streams, even if they are not specifically shown on the map.
- **Parks and Recreational Open Spaces.** Larger land areas, such as golf courses, regional and district parks, botanical gardens and zoological parks are identified on the Open Space and Land Use maps. Community, neighborhood and miniparks are part of the open space system, but are too small to display on the map.
- **Other Urban Open Spaces.** Cemeteries and campuses or campus clusters consisting of over twenty contiguous acres are indicated on **Map A.2, Open Space**. Urban plazas are too small to display on the map.

## 3.2 NEIGHBORHOOD PLANNING AND IMPROVEMENT

The Vision states: “Livable neighborhoods have business districts, parks and plazas, and walkable streets.” Key components of livability include residences within close proximity to employment, businesses, community services and recreational amenities, with facilities integrated in a manner that enhances accessibility and convenience, encourages walking and bicycling as alternative forms of mobility and promotes sidewalk activity. Livable neighborhoods need to be cultivated through neighborhood planning, appropriate zoning controls and incentives, and targeted capital improvements.

To cultivate livable neighborhoods, this section sets forth general land use policy for residential neighborhoods and the commercial districts that serve them. Land use policy for specialized economic functions – e.g., resort, office and industrial – is addressed in Section 3.4.

**Section 3.2.1** examines existing conditions, issues and trends; **Section 3.2.2** outlines broad policies; and **Section 3.2.3** sets forth guidelines. Sections 3.2.1 and 3.2.2 are divided into four corresponding subsections, as follows:

- “Neighborhood planning” addresses the role of more detailed planning at the neighborhood level in the development of livable communities that respect and incorporate the characteristics and values unique to each neighborhood.
- “Mauka residential neighborhoods” refers to lower density residential areas comprised of single-family and townhouse dwellings, mostly located *mauka* of the coastal plains.
- “In-town residential neighborhoods” refers to areas on the centrally located coastal plains of Honolulu and Pearl City-Aiea that are generally planned to include higher-density residential use. These neighborhoods often include a mix of apartment and single-family residences, and are closely related to major commercial districts and corridors.

- “Shopping and retail business districts” includes regional shopping centers, commercial districts and corridors, and neighborhood shopping areas.

**Section 3.2.4** discusses the relationship of the policies to the Land Use Maps and describes the meaning of the Land Use Map designations.

### **3.2.1 EXISTING CONDITIONS, ISSUES AND TRENDS**

Urban development in the Primary Urban Center began with Honolulu Harbor and the surrounding Downtown area and gradually spread across the coastal plain, into the valleys and atop the broad faces of the coastal ridges. The smaller communities of Aiea and Pearl City grew up around plantation agriculture and the military bases near Pearl Harbor. Growth in the decades following Statehood brought the development of apartments and greater density to Honolulu neighborhoods from Kahala to Kalihi, and the creation of many new communities to the west, including Salt Lake, Moanalua, Aiea Heights, Waimalu and Pearl City Heights. Shopping and industrial districts grew, as did Waikiki and the Civic Center.

Nearly all of the commercial and industrial development, as well as high-density residential development, settled in the flat coastal plain close to the main east-west highways and arterial roads.

In the eastern part of the PUC, most of the higher-density development is located between Middle Street and Kapahulu Avenue, *makai* of a line delineated by School and Prospect Streets, Nehoa Avenue and the H-1 Freeway. A “main street” corridor extends east along Waialae Avenue to Kahala Mall. The State’s major cultural, educational, recreational, shopping and entertainment centers lie along Honolulu’s coastal plain.

In the western part of the PUC, a high-density node occupies the east side of Salt Lake, while higher-intensity military, airport, and industrial uses are located *makai* of Salt Lake Boulevard. In the Aiea-Pearl City area, the higher-density commercial, industrial and residential buildings developed on the coastal plain, mostly *makai* of the H-1 Freeway. Manana, a former Navy installation, is centrally located in Pearl City. Now owned by the City, it will be redeveloped for a mix of uses that will serve the community. Finally, the site now occupied by the State Department of Health’s Waimano Training School and Hospital is being studied by the State Department of Land and Natural Resources for its potential for other uses.

Several older, central Honolulu neighborhoods have a mix of uses and housing types. In Kakaako, the State government has established a special redevelopment district and has invested over \$125 million in upgrading street, water, sewer, drainage and utility infrastructure. As a result, Kakaako is gradually transitioning from industrial uses to apartment, office and retail development. In Iwilei, west of Downtown, older industrial activities are being succeeded by new, large-scale retail and entertainment uses. Nearby Kapalama, with its Dillingham Boulevard and King Street commercial corridors, continues to support a vital mixture of retail, service and industrial businesses.

The primarily residential areas of Makiki and McCully-Moiliili each have a mixture of high- and mid-rise apartments, older walk-up apartments and single-family residences. McCully-Moiliili also has important commercial and transportation corridors along King Street, Beretania Street, McCully Street and University Avenue. Development has slowed following the concentrated period of mid- and high-rise apartment development in the 1970s and 1980s.

Lower Kalihi and Kalihi-Kai were historically residential neighborhoods, developed with houses and walk-up apartments. More recent planning and zoning policy designated Kalihi-Kai for industrial use and Lower Kalihi for a mixture of industrial, commercial and residential uses. Due to market forces, commercial activity along Dillingham Boulevard, Kalihi Street and other major streets has increased. Kalihi-Kai now has a diverse mixture of businesses and residences.

These older neighborhoods demonstrate that residential uses can coexist with commercial and even light industrial uses in the same neighborhood. In McCully-Moiliili, for example, commercial businesses along King and Beretania Streets serve the needs of surrounding residential neighborhoods. Exemplifying mixed-use development, some newer apartment buildings rent ground floor spaces to small businesses.

Trends in development over the past 30 years have given rise to a number of “livability issues” that affect PUC neighborhoods to varying degrees. These issues range from not knowing your neighbors to needing motorized transportation to shop for groceries or go to a park. One measure of livability is having a coffee shop or a grocery store or other needed conveniences within walking distance of residences. Feeling safe to walk on the streets is another measure of livability.

Cultivating livable neighborhoods involves reintegrating commercial and residential uses within neighborhoods; making streets safe and pedestrian-friendly; redeveloping certain streets to attract pedestrian-oriented commercial activity; and creating parks and urban open spaces that attract people for informal recreation and socializing.

### **3.2.1.1 Neighborhood Planning**

Neighborhood Boards, Community Vision Teams (CVTs) and community associations throughout Oahu are actively planning for their neighborhoods. Community leaders continually request recognition and endorsement of neighborhood planning processes and plan documents.

The City Charter mandates an islandwide *General Plan* and a system of regional Development Plans, of which this is one of eight. As such, the role of the PUC Development Plan is to establish a clear regional policy framework that will support neighborhood-level planning within the region’s many diverse communities. Neighborhood- or community-level plans would act as more detailed, tactical elaborations of the more general, strategic policy framework established by the PUC Development Plan. This more detailed level of planning is critical because citizens

identify most closely with and have the greatest investment in their specific neighborhood or community.

City governments in other states typically have some form of neighborhood planning. Seattle has a system of Neighborhood Plans that covers 31 neighborhoods. The City of Portland, Oregon prepares Community Plans covering specific areas within its jurisdiction. Both Seattle and Portland center their planning processes around broad community participation and representative advisory groups.

In the 1990s, the City and County of Honolulu recognized this need and began to support various forms of neighborhood planning. The Planning Department's 1993 report, *General Plan and Development Plans Revision Program*, proposed the creation of "Special Area Plans" as a new element in the City's planning system. The *Waipahu Town Plan*, the first community-based effort to be funded by the City, was accepted by the City Council in 1999.

At the turn of the millennium, the City funded a wide variety of community-based, community-level planning efforts. Community Vision Teams planned a variety of community improvements. Many undertook multiyear Capital Improvement Projects. Some of these teams initiated formal neighborhood planning projects.

Learning from these experiences, the City needs to establish a clear and consistent path for neighborhood-level planning – one that clarifies the City's role and the neighborhood's role in a collaborative process.

### **3.2.1.2 *Mauka* Residential Neighborhoods**

"*Mauka* residential neighborhoods" refers to lower-density residential areas consisting of single-family and townhouse neighborhoods, mostly located *mauka* of the coastal plain. *Mauka* valley and ridge areas are predominantly developed with single-family residences. Single-family neighborhoods are also located in older parts of Aiea and Pearl City, Foster Village, Salt Lake, Kaimuki, Kapahulu and Waialae-Kahala. Townhouse neighborhoods are located in Waiau, Newtown, Pearlridge and Waialae-Kahala. Small enclaves of higher-density use are located within lower-density areas, such as the tall apartment buildings along Nuuanu Avenue.

Key livability issues include the following:

- **Overdevelopment of single-family house lots.** The principal elements of building scale and design for single-family residential and townhouse development are: (a) low building height profile, generally one or two stories; (b) a low ratio of building coverage on the lot, with landscaped yards on all sides; and (c) pitched roof design, varied facades and other architectural features that reduce the apparent structural bulk.

In many single-family residential areas, there is a trend towards increased density and larger dwelling unit size. In some cases, properties are subdivided into multiple small lots. In other cases, larger new dwellings replace smaller old ones, houses

are expanded, or *ohana* units are added. This results in increasingly large dwellings covering a greater portion of the lot on which they are located.

Often, depending on the occupancy of the dwelling, there is increased demand for off-street parking which results in additional paving, particularly in the front yard. In addition, there is a greater tendency towards lots enclosed within a solid wall, usually because the larger building is located closer to the street.

- **Overdevelopment of nonresidential uses.** Building design standards for residential districts apply not only to dwellings but also to other types of uses that are permitted on residential-zoned lots, such as churches, day-care facilities, private schools and community centers. While these uses are generally consistent with the purpose of a residential zone and provide a service to the neighborhood, they tend to be less compatible with surrounding uses as their building scale becomes larger and the level of use intensifies.
- **Planning and design of residential streets overemphasizes the rapid movement of automobile traffic.** Many single-family residential neighborhoods were developed prior to the automobile age and have narrower streets than are required by modern public works standards. Often canopy trees shade the streets, creating a pleasant ambience for residents, motorists and pedestrians. While formal sidewalks may not be present, safe pedestrian passage is usually available along grassed areas on either side of the road pavement, or even within the roadway itself where the vehicular traffic volumes and speeds are relatively low.

Following a nationwide trend, Honolulu adopted public works standards in the late 1960s that sized and configured roads to enhance the flow of automobile traffic. The road standards applied to residential subdivisions were based on highway design featuring wide travel lanes and broad curve radiuses. This had two results. First, new subdivisions were built with overly wide roadways that encourage speeding and detract from the sense of community. Secondly, many older roads were rated “substandard.” Subsequently, many older streets have been designated for widening by the City’s Department of Transportation Services (DTS). While there is no comprehensive City-funded program to accomplish planned widenings, parties redeveloping or subdividing properties are required to dedicate street improvements built to current standards. In this way, segments are widened or acquire sidewalks while the remainder of the street remains in the preexisting configuration.

The small amount of additional growth that is anticipated in these neighborhoods does not warrant an aggressive program to reconstruct older right-of-ways to current public works standards. Doing so would not only be prohibitively expensive, but also environmentally disruptive. In many instances, street widening would require the taking of private residential lots and dwellings. Presently, many residential lots are encumbered by setbacks for future street-widening projects that may never occur.

Moreover, present street conditions in older neighborhoods tend to calm traffic and promote a quieter, cooler environment. It would be more cost-effective and environmentally desirable to direct the City's financial resources towards safety improvements for vehicular, bicycle and pedestrian routes along older streets where needed.

Conversely, some of the wider streets in newer neighborhoods are potential candidates for traffic calming measures such as pavement narrowing, more effective pedestrian and bicycle routes, and street tree planting. Where traffic is calmed, there is less reason to build high, solid walls at the front property line for privacy and screening out headlight glare and traffic noise.

- **Building on steep slopes.** *Mauka* valley and ridge neighborhoods include sites with steep topography where development may result in adverse visual impacts or hazardous conditions. For the most part, hillside locations have stable soils, so the primary impact is aesthetic as structures built too high on steep slopes tend to be visually obtrusive, especially when they interrupt the silhouette of a ridgeline. Hazardous building conditions are more prevalent on the lower slopes of valley walls, where deposits of unstable soils are susceptible to slow-moving landslides.

Incremental build-out of hillsides and lower valley slopes affects both natural and urbanized drainage systems. Increased lot coverage by larger buildings and more extensive paving has increased the volume and rate of stormwater discharge. The problem is exacerbated in the *mauka* reaches of the valleys and hillsides, where rainfall is higher.

Over the long term, the cumulative impact of greater lot coverage threatens to erode natural stream banks downstream. This typically leads to structural hardening of the drainage channel with concrete – an expensive, aesthetically and ecologically undesirable result. In some areas, the increased level of stormwater runoff has exceeded the capacity of the drainage system and resulted in flood conditions.

### 3.2.1.3 In-Town Residential Neighborhoods

“In-town residential neighborhoods” refers to areas on the centrally located coastal plains of Honolulu and Aiea-Pearl City that are planned for higher-density residential use. Ranging from older two- to four-story walk-up buildings to 40-story high-rise towers, higher-density residential buildings take a variety of forms and are often mixed with or located close to office and retail uses. Higher-density residential areas vary widely in terms of the height and volume of the buildings, the mix of uses in the neighborhood, and connections to the street and neighboring properties.

In-town housing is near jobs, shopping districts, hospitals, parks and entertainment. Residents of these areas enjoy excellent access to all of the opportunities of the city, without having to rely exclusively on costly automobile transportation. Mixed-use is an essential component of the most livable in-town neighborhoods, and residents of these neighborhoods find parks and shopping in easy walking distance. Bicycling on the flat

coastal plain is a practical mode of transportation, and transit provides a comfortable ride with fast connections.

Key livability issues include the following:

- **Single-use zoning.** Segregation of residential, industrial and commercial uses into separate zoning districts means that many neighborhoods lack essential services within walking distance. Residents are forced to use their cars to go shopping or find recreation.
- **Unneighborly building relationships.** In Makiki and other areas planned for and in transition to apartment use, high- and mid-rise towers are physically isolated from other buildings. Many are also isolated from the public street, with lobbies accessible only from the parking garage or across a parking lot. These larger buildings are juxtaposed with older, walk-up apartments and single-family lots occupied by older houses or redeveloped in two-story “adaptive residential” configurations. Typically, the walk-up apartment lots are completely paved, with no trees or landscaping. Many blocks are a jumble of different building styles and different scales of height and bulk. Often, there is little to unify the apartments visually and little in terms of shared public space where neighbors might become acquainted. Because of the juxtaposition of different uses and buildings of dramatically different scales, many blocks within the transitional neighborhoods lack a consistent character. Often, buildings bear little or no relationship to their neighbors, and open space between buildings typically consists of service yards and parking lots.
- **Declining commercial districts.** Increasing concentration of retail establishments in shopping centers and the advent of supermarkets and “big-box” retailers have displaced smaller neighborhood stores and left older commercial districts at a competitive disadvantage. In addition, increased street widths and changed zoning standards have rendered older properties nonconforming. Existing zoning regulations preclude improvements and/or render building rehabilitation infeasible.
- **Automobile dominance.** Widening and conversion of key streets to one-way arterials, such as along King and Beretania Streets, has resulted in reduced sidewalk widths, reduced on-street parking, and reduced pedestrian activity. In the Aiea-Pearl City area, walking distances between destinations are generally too long for most pedestrians. Parking lots and garages typically separate bus stops and public sidewalks from entrances to commercial establishments and apartment buildings. Adverse street and traffic conditions further discourage walking.
- **Insufficient parks and open space.** The older and more intensively developed parts of the PUC lack sufficient parks, recreation facilities and open space. Particularly impacted are Makiki, Nuuanu, Downtown, Liliha and Kalihi-Palama.

### 3.2.1.4 Shopping and Retail Business Districts

Retail shopping is concentrated in four regional shopping centers: Ala Moana, the Victoria Ward Centers, Pearlridge and Kahala Mall. These shopping enclaves dominate the market, while older street-oriented business communities – e.g., the Waialae Avenue corridor in Kaimuki and the King Street corridor in Kalihi – have declined. Regional shopping centers have been designed as massive building forms primarily accessible by automobile, with expansive parking lots or large parking structures separating stores from their surrounding neighborhoods. Smaller shopping centers, such as Pearl Kai, are similarly cut off from the street and the surrounding community. Throughout the Aiea-Pearl City area, shoppers typically drive from center to center, and pedestrian use of the streets is practically nonexistent.

The Downtown-Chinatown area contrasts the shopping centers. With its large employee population, Downtown-Chinatown supports many small and large retail businesses accessible from the sidewalk. Parking is generally available in structures above the street level. With its retail storefronts, pedestrian-oriented Fort Street Mall, and commercial plaza spaces (e.g., Maunakea Marketplace), Downtown-Chinatown offers a wide variety of experiences quite different from the homogeneity of the shopping mall.

Older commercial buildings along major streets are typically built up to the front and side property lines creating a street-wall composed of interesting storefronts such as those found in Chinatown, Kaimuki and in parts of McCully-Moiliili. Under current zoning regulations, many of these older buildings lack sufficient off-street parking. Due to the lack of parking, a new business tenant often faces difficulty and delay in obtaining a building permit for store or restaurant improvements.



**FIGURE 3.4: LEHUA AVENUE, PEARL CITY – 2001.** Community members identified the old heart of Pearl City as a place with potential for revitalization. The photograph looks mauka along Lehua Avenue, which – at four lanes – is wider than needed.



**FIGURE 3.5: LEHUA AVENUE, PEARL CITY – IN THE FUTURE.** A vision of the future shows the potential of streets like this, given active business investment, and a modest amount of street improvements. Lehua Street is transformed into a boulevard with wide sidewalks, trees, a center median, and head-in parking. Responding to the improvements and increased parking, owners have renovated buildings and storefronts. In the foreground, coffee shop customers chat over a cup of java, and the bike shop caters to cyclists using the nearby Pearl Harbor Historic Trail.

In older areas, a combination of small lot size and the location of the building footprint often makes it impossible to provide on-site parking to meet current zoning requirements. This in turn hinders owners from changing commercial tenants and expanding or improving the building. Consequently, lots with older commercial buildings oriented towards the street are often redeveloped with new buildings that are set back from the street and parking lots adjacent to the sidewalk, or assembled with adjacent lots and redeveloped as small shopping centers.

In addition to the major commercial districts located in the more intensively developed coastal plain, there are also community-level shopping areas located within the *mauka* residential neighborhoods. Smaller commercial enclaves, such as Kamehameha Shopping Center and Manoa Marketplace, provide grocery stores and other important services in convenient proximity to residences. The grocery store often functions as a *de facto* neighborhood center, a place where people meet their neighbors in casual encounters. In other neighborhoods, such as Palolo and Pauoa, groupings of stores are situated along collector roads. The issues discussed above relating to parking requirements, small lot size, and the street-wall of older storefronts are also prevalent in neighborhood commercial areas.

### 3.2.2 POLICIES

Cultivating livable neighborhoods demands a broad set of policies addressing an array of topics, including the design of residential, commercial, and industrial development; the design of parks, streets, and other public spaces; priorities for public investment; and planning at the neighborhood level. Following are key policies. Additional policies

relating to multifamily housing may be found in **Section 3.3**. Others relating to transportation may be found in **Section 3.5**.

### **3.2.2.1 Neighborhood Planning**

This set of policies can be applied to different types of neighborhoods and business districts, including both lower-density and higher-density residential areas. Applications will differ according to the particular character of the community.

- ***Develop a system for collaborative neighborhood planning.*** Planning for neighborhood improvement must be undertaken at the neighborhood level. Neighborhood planning is a collaborative enterprise involving residents, business and property owners, government agencies, and others who have a stake in the neighborhood.

Special Area Plans are intended to be developed in accordance with the overall policy planning guidance of the PUC Development Plan and to elaborate on it at the local level. Special Area Plans should respond to the specific issues of their communities. They may address issues such as neighborhood character (this may apply to building, streetscape, or open space character), special features, types of facilities or uses, specific opportunities or constraints to neighborhood improvement or enhancement, economic direction, safety, lifestyle opportunities, access, and circulation.

While it already engages in this type of community-based planning, the City Department of Planning and Permitting should take the lead in developing a *formalized* process for initiating, staffing, funding, and preparing Special Area Plans.

- ***Cultivate existing and new “neighborhood centers.”*** Neighborhoods need central places where people gather for shopping, entertainment, and/or recreation. The center of a neighborhood could be a public plaza or a recreation complex, or a commercial town center, with a grocery store and other shops and services. It could have a public park or a plaza linked to shops. Cultivating neighborhood centers entails investment in parks and pedestrian street improvements.
- ***Promote mixed land uses.*** Office, retail, and community service uses can coexist with residential uses; and there are a number of opportunities for them to support each other. In traditional single-family neighborhoods, groupings of small stores provide convenient service and a place to meet neighbors. In the PUC’s in-town neighborhoods, both residential and office development support retail and other services. Neighborhoods with a strong mix of uses have activity 24 hours a day. Residences providing “eyes on the street” contribute to neighborhood safety.
- ***Create parks that draw people and activity.*** The PUC should have a range of parks. While all provide open space and relief from buildings and traffic, some should provide for organized sports and fitness activities, and others should function more as neighborhood gathering places. In the PUC, development of one or two

large sports complexes with substantial parking could provide for league play of all kinds, while smaller parks could be used in inventive ways to meet the needs of their surrounding neighborhoods. Like other cities throughout the world, plazas and open spaces that attract people and activity are integrated with churches, shops, and other buildings.

- ***Make streets “pedestrian-friendly.”*** There are many opportunities to create street environments that invite pedestrian use, such as widening sidewalks, planting trees to provide shade and buffer pedestrians from vehicular traffic, and narrowing intersections to provide shorter and safer pedestrian crossings. The Land Use Maps (Maps A.4, A.5 and A.6) show primary pedestrian routes. These streets and others identified through neighborhood planning should be given high priority for pedestrian improvement.
- ***Make major streets which connect communities convey neighborhood identity.*** The identifying characteristics that give neighborhoods their unique visual signatures or identities should be emphasized and conveyed by the streets that connect them to other places. To help accomplish this, landscape and other streetscape design for major streets which serve as *principal routes* connecting two or more neighborhoods should reflect the unique identities of each neighborhood and, where possible, should provide open spaces between them which create significant public views or access to mauka or shoreline resources.

### **3.2.2.2 Mauka Residential Neighborhoods**

- ***Density.*** Lower-density residential areas may have single-family residences and townhouse apartments at a density of five to 12 dwelling units per acre, with predominantly two-story building heights. Areas zoned for apartment use may have higher densities.
- ***Appropriate Building Design.*** For institutional and other nonresidential uses allowed within lower-density residential areas, provide guidelines for the location and design of buildings, service areas, and pedestrian and vehicular access. In general, street-facing building elements should be attractive, designed for human scale, and have clear points of entry. Service and utility elements should be located out of sight from the street and away from residences.

### **3.2.2.3 In-Town Residential Neighborhoods**

- ***Density.*** Areas close to transit lines and the major east-west arterials should be zoned for medium-density residential, which may range from 13 to 90 units per acre, or high-density residential mixed use, which may range up to 140 units per acre. Neighborhoods in these zones would also include reinforcing uses which support resident lifestyle and livelihood choices, such as convenience or neighborhood stores, dining establishments, professional and/or business services, or other similar activities. (See Section 3.3 for more discussion of higher-density residential design.)

- **Building Heights.** Establish maximum desired building heights in apartment-zoned districts on the basis of viewplane studies to preserve views of natural landmarks as indicated in **Section 3.1**. Otherwise, the maximum building height for districts zoned low-density apartment should be approximately four stories or 40 feet. For areas zoned medium-density apartment, the maximum desired building height should be either 60 feet or the present height of the building occupying the lot. It is expected that with these criteria, building heights for most in-town residential neighborhoods, including Moiliili, McCully, and other established neighborhoods between Ala Moana and the University of Hawaii would not exceed currently allowed heights. Given market conditions, development feasibility, and future incentives and standards encouraging the enhancement and development of livable neighborhoods, such districts may experience lower than currently sanctioned building heights.
- **Building Design and the Streetscape Environment.** Neighborhood plans should distinguish between principal or “front door” streets that give a neighborhood the opportunity to “put on its best face,” and secondary or local streets where a variety of activities are appropriate or where service is the main function. Utilitarian elements such as service yards, parking lots, or utilities should be located on nonprincipal streets in ways that support efficient patterns of circulation.

Along principal streets, buildings should be designed to reflect human scale, to create pleasant walking conditions, and to provide attractive front entrances. Monolithic building faces and blank walls should be avoided. A generally consistent building line (i.e., “build-to” line) should govern the street front placement of building faces. Courtyards or other recessed open spaces may be placed along the street in order to provide strategic open space relief and opportunities for social activity or respite.

#### 3.2.2.4 Shopping and Retail Business Districts

- **Community/Neighborhood Commercial.** These commercial areas should be located within and should primarily serve lower-density residential neighborhoods. Generally 10 acres or less in land area, these districts or clusters of establishments typically have service stations, grocery and sundry stores, and other small businesses serving residential customers. Buildings are generally one or two stories in height. While they vary greatly in total size and number of business establishments, a Community/Neighborhood Commercial area typically has no more than 200,000 square feet of commercial floor area.
- **District Commercial.** District Commercial includes a wide variety of commercial uses located in the core areas of the Primary Urban Center. These districts typically have larger facilities and serve larger populations than community/neighborhood commercial districts. They may include major office buildings, shopping centers, and older commercial streets that serve a district-wide, regional or islandwide population. Mixed uses, including medium to higher density residential uses where appropriate, and higher densities are encouraged in these areas. Downtown should

have the tallest buildings on Oahu. In other areas, maximum building heights should be established on the basis of viewplane studies to preserve views of natural landmarks.

- **Commercial streets.** Enliven commercial streets by providing wide sidewalks and trees for shade, and encouraging property owners to build to the sidewalk edge. Vital urban neighborhoods rely on high pedestrian activity. Storefronts create interest and stimulate pedestrian activity along the street, especially when they are built to the property line and meet the public sidewalk.
- **District-wide parking.** Support older commercial districts and the continued use and rehabilitation of small commercial lots by providing conveniently located municipal parking. In the past, the City organized parking improvement districts and built centralized parking in Downtown and Kaimuki.
- **Integration of shopping centers with adjacent neighborhoods.** Ensure that all shopping areas integrate well with adjacent residential neighborhoods. Require safe, pleasant, pedestrian connections between shopping establishments and their host neighborhoods. Encourage the planning and development of centers or clusters of shopping establishments to have their shops rather than parking lots face and be adjacent to abutting neighborhoods. Wherever possible and appropriate, encourage compatible or seamless design and landscape treatment of public routes and thoroughfares between residential and shopping areas. To the greatest extent possible, avoid placing service uses adjacent to resident areas and major frontages. Efforts should be made to appropriately locate and distinguish between front door and service zones.

Require good pedestrian connections within shopping center parking lots. Encourage retail complexes and small centers to reduce or eliminate physical barriers to pedestrian access between facilities within the complex and from adjacent neighborhoods. Develop agreements for shared parking. Regulate large centers in order to reduce traffic and parking impacts on the surrounding neighborhood. Encourage redevelopment of shopping centers as shopping districts by developing commercial buildings along street frontages and by redeveloping driveways as shop-lined streets.

### **3.2.3 RELATION TO LAND USE MAPS (A.4-A.6) AND ZONING**

The following summarizes the land uses within the Primary Urban Center, as shown on **Land Use Maps A.4 to A.6** in the Appendix of this document. The Land Use Maps, which illustrate generalized categories of land use within the region, are conceptual in nature. The land use designations are broad classifications that refer to the desired character of the area and not the specific use of the individual parcels.

- **Lower-Density Residential.** Areas designated Lower-Density Residential are shown as yellow on the maps. They include neighborhoods in valleys and on ridges, such as Manoa Valley and Aiea Heights; neighborhoods around Aliamanu Crater and Salt Lake, including military housing; older portions of Aiea and Pearl City; and the neighborhoods surrounding Diamond Head. Areas designated Lower-Density Residential encompass most of the established single-family residential neighborhoods in Honolulu and Pearl City.
- **Medium- and Higher-Density Residential/Mixed Use.** Shown on the maps as light brown, the Medium- and Higher-Density Residential/Mixed Use designation is generally applied to centrally located neighborhoods that are served by major east-west highways and arterials, as well as by express public transit. They include apartment areas in the Pearl City region *makai* of the H-1 Freeway; apartment areas in Salt Lake, Red Hill, and nearby military reservations; areas of Kalihi-Palama between the H-1 Freeway and Dillingham Boulevard; and areas across the coastal plain of central Honolulu – i.e., Liliha, Vineyard, Punchbowl, Makiki, Kakaako, McCully-Moiliili, Waikiki, and Date Street. Because of their central location, predominantly single-family residential areas in lower Manoa, McCully, and Kaimuki that lie near the H-1 Freeway should be considered for Higher-Density Residential use in the future.

It should be kept in mind that building height does not necessarily increase with density. Medium or higher density residential complexes which employ efficient site usage and creative clustering or groupings of units can result in medium- to high-density residential areas that may be low- to medium-rise in height, that relate harmoniously to people and to adjacent streetscapes, that reflect residential character, and that can provide courtyards or private, semipublic, or completely public and usable active or passive open spaces that can serve as conveniences to residents, visitors, or passersby.

- **District Commercial.** Indicated by red on the maps, areas designated for District Commercial include the PUC's primary retail and office complexes. They consist of central in-town areas, including Downtown Honolulu, shopping centers, and commercial areas located along arterial streets such as Kamehameha Highway, King Street, Dillingham Boulevard, Ala Moana Boulevard, Ward Avenue, Kapiolani Boulevard, Keeaumoku Street, Kapahulu Avenue, and Waialae Avenue.
- **Community/Neighborhood Commercial.** Indicated on the maps by a red dot, Community/Neighborhood Commercial districts are primarily located within the lower-density residential areas that they serve. These districts take a variety of forms: small clusters of stores such as in Kalihi Valley; business streets like Lehua Avenue in Pearl City and School Street in Kapalama; and small centers like Salt Lake Shopping Center, Stadium Mall, Kamehameha Shopping Center, and Manoa Marketplace.

- **Resort.** Intended as a mixed-use designation, Resort districts consist primarily of resort hotels, timeshares and other apartments used as transient visitor units (TVUs); and supporting commercial uses, such as shops, restaurants and entertainment. This designation only applies to the Waikiki, Marina, Hobron and Fort DeRussy neighborhoods that are colored pink on the Land Use Maps (See Maps A.5 and A.6).
- **Industrial.** Shown on the maps as purple, this designation includes not only industrial districts but also the major transportation facilities – Honolulu Harbor and Honolulu International Airport (HIA). The mostly State-owned lands around Honolulu Harbor and on Sand Island support cargo handling and port facilities. Also State-owned, HIA consists of airfields linked to Hickam Air Force Base, aircraft maintenance facilities, and terminals for passengers and cargo.



**FIGURE 3.6: KUAKINI STREET, LILIHA – 2001.** Community members identified the commercial areas in lower Liliha as having potential for revitalization. The photograph shows existing shops and apartments along Kuakini Street, looking Diamond Head to the Liliha intersection.



**FIGURE 3.7: KUAKINI STREET, LILIHA – IN THE FUTURE.** In a vision of the future, Liliha residents and visitors enjoy a lively mix of shops and small restaurants. This block and nearby Liliha Street have become a neighborhood center. New buildings filling in the block and trees shading the sidewalks provide an interesting and comfortable ambience for pedestrians. Above the shops are apartments and businesses. More parking is found in a midblock municipal lot.

- ***Institutional.*** The location of the Civic Center and major institutional campuses – including public and private secondary schools, colleges, hospitals and other large institutions – are indicated by a blue color on the Land Use Maps. Smaller institutional uses – such as churches, elementary schools, and community centers – are generally not shown, but are allowed in most zoning districts subject to appropriate zoning controls to assure compatibility with surrounding uses.
- ***Military.*** Military uses other than residential, parks and open space, and commercial functions are shown in gray. Areas designated for military use include Pearl City Peninsula, Pearl Harbor Naval Base, Hickam Air Force Base, Camp Smith, Tripler Army Medical Center, and Fort Shafter Military Reservation. Ford Island, which is shown as military, is projected for a mixture of military, residential, commercial, and community uses. Military bases are exempt from local planning and zoning. Nevertheless, it is important to recognize that military residential communities often abut nonmilitary neighborhoods.
- ***Parks and Open Space.*** Larger land areas such as golf courses, regional and district parks, botanical gardens and zoological parks are identified as Parks and Open Space on the Land Use Maps. Community, neighborhood and miniparks are part of the open space system, but are too small to display on the maps.

- **Preservation.** Shown on the Land Use Maps as light green, lands designated Preservation lie primarily in the State Conservation District, outside of the Urban Community Boundary. Also included in this designation are the few PUC lands that are zoned for Agriculture, including areas along the edge of Waiawa Stream, Kalauao Springs, and at the back of Palolo Valley.

### 3.3 IN-TOWN HOUSING CHOICES

The PUC of the future “offers in-town housing choices for people of all ages and incomes.” This third element of the Vision addresses the need for affordable housing, both rental and for sale, in the PUC to serve families with young children as well as young adults, elderly residents, and multigenerational households.

**Section 3.3.1** examines the issues relating to the housing stock and impediments to new housing development. **Sections 3.3.2 and 3.3.3** set forth policies and guidelines.

#### 3.3.1 EXISTING CONDITIONS, ISSUES AND TRENDS

In the year 2000, the PUC had a population of 419,000. The General Plan calls for the PUC to accommodate 47percent of Oahu’s population. Based on the City’s long-range population projections, this would yield a 2025 PUC population of 486,000 people – a potential population increase of 67,000 people over 25 years.

##### 3.3.1.1 Housing Stock and Occupancy

In 2000, the PUC had 172,000 housing units, or approximately 55 percent of Oahu’s total housing stock. Compared to the rest of Oahu, the PUC housing stock is older and has a higher proportion of multifamily (apartment) units. Almost 50 percent of the PUC’s housing is occupied by renters, compared to 41 percent for the rest of Oahu.

A little more than one-fourth of all housing units in the PUC were built prior to 1959, the year of Statehood. As of 2000, the PUC had 89,000 units over 30 years old – sixty percent more than the rest of Oahu. Most of the older units found in the PUC are single-family residences located between Kalihi and Kaimuki.

According to 2000 census data, over 60 percent of PUC housing consists of multifamily units. Renters occupy over 70 percent of PUC apartment units, while owners occupy about 73 percent of single-family units.

Renters are concentrated in the urban core of Honolulu. With the exception of the *mauka* residential areas, census tracts from Kalihi to Kaimuki had at least 40 percent renters. Renters occupied more than 55 percent of the available housing units in Kalihi-Palama, Downtown Honolulu, and Ala Moana-McCully. The same areas had high proportions of low- and moderate-income households. Pre-1969 walk-up apartments located in these neighborhoods comprise an important reservoir of affordable, in-town housing units.

In the 1980s and early '90s, the City and the State carried out aggressive low-moderate income housing development not only in Ewa but also in Downtown and Kakaako. As of 2000, however, most of the government-owned in-town sites have been developed, and funding for new housing has been drastically reduced, making preservation and retention of existing affordable units an integral and essential component of fulfilling the housing needs of PUC residents.

### **3.3.1.2 Development of New Housing**

The PUC is essentially “built-out” – i.e., there is no reservoir of vacant land designated for future urban use. New housing is developed on lands which are underutilized or where it is not economical to maintain the existing uses or structures. This occurs primarily in older in-town districts where land values are relatively high, and there is a strong market demand for higher use.

One key redeveloping area is Kakaako, which is zoned and regulated by the State’s Hawaii Community Development Authority (HCDA). HCDA has invested in improving infrastructure in order to support higher-density residential and mixed-use development. Based on plans developed in the late 1970s, more than \$125 million has been spent on infrastructure improvements in four improvement districts. The comprehensive program has included improvements to roadways, drainage facilities, sewers, water lines, and electrical and communications lines. The State of Hawaii underwrote 80 percent of the cost, with the remainder paid by property owners and utility companies.

With large blocks of land controlled by large landowners, infrastructure already in place, and relatively, generous floor area ratios (FAR) available for larger projects, Kakaako is projected to absorb about 30 percent of the PUC’s future residential growth and a large portion of the region’s projected commercial growth. Kakaako regulations provide for a maximum floor area ratio of 3.5 to 3.8 for “Planned Developments,” compared to 1.9 FAR for A-2 Medium Density Apartment zoning, and 2.8 FAR for A-3 High Density Apartment zoning under the City’s *Land Use Ordinance (LUO)*.

Floor Area Ratio, or the ratio of the floor area of a building to the legally defined area of the land it stands on, governs how much building may be built on any given parcel of land. The higher the FAR, the more floor area a building can contain. Greater FARs allow greater intensities of land use, and may influence the character of development that results from it. However, because a building can be shaped and arranged in many different ways on the land it uses, greater intensity of land use may not always result in taller buildings or feelings of congestion. Skillfully planned and designed developments using generous FARs can create buildings and building groupings of moderate heights which relate comfortably to the size and needs of people, with pleasant, usable open spaces and senses of spaciousness that provide comfortable balances with the built environment.

Other PUC neighborhoods, such as Makiki and McCully-Moiliili, already have substantial amounts of medium- and high-density housing. Several important factors,

however, hinder the development of new residences, especially new multifamily dwellings. These factors may be briefly summarized as follows:

- **Higher Prices.** Prices for all types of housing – both sale and rental prices – are extremely high in the PUC, with single-family houses clearly beyond the affordable range. Prices for apartments are generally high because of higher costs for land and for construction of high-rise structures.
- **Housing Preferences.** Due to the high price of real estate in the PUC, homebuyers seeking affordable housing are typically limited to apartment dwellings in the PUC. (Most new housing, and practically all of the new single-family housing, is being built in Ewa and Central Oahu.) Living in multifamily housing in the PUC is readily accepted by elderly and other households without children but is viewed as less desirable by families who can afford to buy. In addition to resistance to apartment-type housing, families are also concerned about the lack of schools and parks in PUC apartment neighborhoods.
- **Rental Unit Development.** Market conditions also discourage development of rental units. For many years, pure rental projects were developed only when heavily subsidized by government. Indirectly, rental units have become available as investors purchased individual condominium units and then rented them out.
- **Higher Risks.** Development of a multifamily, high-rise structure carries more developer risk than lower-density housing because the structure must be completed (and the investors fully extended) before any sales are closed. Honolulu's *Uniform Building Code* requires "Type 1" construction for large apartment buildings. Type 1 standards essentially demand a reinforced concrete structure, which is very expensive. With the high carrying costs of a completed building, slow absorption can cut into or eliminate profits. The higher risk makes it more difficult and costly to obtain development financing.
- **Infrastructure Deficiencies.** Infrastructure deficiencies are found in most of the older, in-town neighborhoods. Some affect broad areas and are costly to correct, such as insufficient capacity of a sewer trunk line or a pump station. In such cases, development cannot occur until the City makes improvements to expand capacity. For upgrading local water, sewer, or drainage lines, the developer typically bears the full cost of the required improvement (even though other properties may benefit as well). The cost of required infrastructure improvements can make a project infeasible.
- **Zoning Regulations.** Zoning regulations strictly limit the floor area and the lot coverage of apartment buildings. High minimum parking requirements, combined with limitations on lot coverage, force the development of costly structured parking. In addition to substantially increasing project design and construction costs, existing regulations force apartment buildings into a tower configuration with a parking pedestal.

These factors limit the availability of affordable housing for middle- and lower-income families in the PUC. While the City and County of Honolulu cannot directly affect market factors, it can support new housing development by modifying zoning and building regulations, and upgrading infrastructure.

### **3.3.1.3 Design of Multifamily Housing**

As discussed above, existing regulations in the *Land Use Ordinance*, as well as in HCDA's *Kakaako Community Development District Administrative Rules*, favor tower-type apartment buildings with large parking pedestals. With blank garage walls on the parking pedestal and a visually prominent tower above, such buildings typically relate poorly to the street and to the buildings around them. Driveways and garage entrances dominate the street frontage, making the area uninteresting and unattractive to pedestrians. While the main housing element may be a slender tower, the building appears massive from the ground because of the large parking pedestal. The *LUO* regulations have promoted the construction of towers in several ways: by limiting building footprints (which in turn promotes tall buildings); by requiring yard setbacks; and by allowing unlimited floor area within parking structures (which in turn promotes massive parking structures).

An alternative type of housing design is shown in a future vision of Kakaako. “Before-and-after” illustrations, **Figures 3.8 and 3.9**, show how the warehouse district around Mother Waldron Park could be transformed into a residential neighborhood. Residential buildings of up to six stories have pedestrian entrances and ground-floor shops. Parking is accessed from side or rear driveways. If Pohukaina Elementary School were rebuilt next to the park (the site is to the right of the picture), this townhouse and apartment neighborhood could provide a welcome in-town alternative for young families.

The housing design represented in **Figure 3.9** creates a cohesive neighborhood environment. All of the buildings are built up to the sidewalk, have entries and commercial uses on the ground floor, and have similar cornice (roof) heights. While similar building types and scale create a sense of cohesion, architectural detailing can give each building a distinctive character. Together, the buildings create four walls that frame the park and make it “an outdoor room” similar to the urban parks and plazas discussed in Section 3.1.3.5.



**FIGURE 3.8: KAKAAKO – COOKE AND POHUKAINA STREETS – 2001.** This view *makai* along Cooke Street shows warehouse buildings occupying the blocks near Mother Waldron Park. Based on plans to redevelop the area with residential and commercial uses, the State has upgraded roads and utilities and has built a new drainage system for the area. With the existing park and a proposal to construct a new public elementary school, this part of Kakaako has excellent potential for in-town residential development.



**FIGURE 3.9: KAKAAKO – FUTURE IN-TOWN RESIDENTIAL NEIGHBORHOOD.** In this vision of the future, mid-rise apartment buildings ring Mother Waldron Park. Families living in the area enjoy a revitalized Mother Waldron Park. They browse and have coffee in the shopping arcade along Cooke Street. Food and other necessities are available at the full-sized grocery store on the corner. Residents can walk to Downtown offices or commute to work using rapid transit.

### 3.3.2 POLICIES

The following policies are intended to promote housing choices in livable in-town neighborhoods that are planned for higher-density residential and mixed uses. The first two policies entail changing development standards for apartment zoned districts and other zoning districts that allow multifamily dwellings.

- ***Promote people-scaled apartment and townhouse dwellings in low- or mid-rise buildings oriented to the street.*** Promote buildings that are modest in height and have a pedestrian entrance facing the street. Encourage the use of ground-floor space for shops that will serve residents and contribute to a pedestrian-oriented neighborhood. This policy entails revising zoning regulations.
- ***Improve the feasibility of redeveloping small lots.*** Remove disincentives for townhouse and low-rise apartment development on smaller lots zoned for multifamily dwellings. This policy entails revising zoning regulations.
- ***Reduce costs for apartment homes.*** Reduce construction costs and promote low-rise buildings by allowing less expensive building construction types while maintaining health and safety. Reduce land costs by allowing greater dwelling unit density while limiting building volume consistent with promoting livable neighborhoods. This policy entails revising building and zoning regulations.
- ***Provide adequate parks and schools for in-town neighborhoods.*** Community parks and recreation facilities should be provided in and near residential neighborhoods. To attract young families, access to elementary schools must be assured.
- ***Expand the capacity of infrastructure, including water supply, sewers, and storm drains.*** Government needs to lead both planning and investment in renewing and expanding infrastructure. To remedy district- or neighborhood-scale infrastructure constraints is beyond the capability of individual landowners. Likewise, paying for relief lines and larger-scale projects that will benefit multiple landowners requires government leadership in providing long-term financing and apportioning costs.
- ***Support the retention, rehabilitation, and improvement of older, low-rent apartment buildings.*** Many older, walk-up apartment buildings constructed prior to the 1969 *Comprehensive Zoning Code* do not conform to current zoning or building standards but collectively comprise a valuable reservoir of low-cost rental housing. The City should relax zoning requirements to encourage the rehabilitation and improvement of these buildings.
- ***Preserve the current inventory of affordable rental housing units.*** The City should assure that the current inventory of affordable rental units, whether owned by the city or not, is preserved and retained as affordable rentals.

- ***Provide for special needs housing.*** Allow housing for people with special needs, such as group homes for the disabled or congregate living and care homes for the elderly, subject to special development standards or permit review. Promote the dispersal of special needs housing among various neighborhoods and avoid over-concentrating facilities in just a few areas.
- ***Provide incentives and cost savings for affordable housing.*** Provide exemptions from zoning and building codes for housing projects that meet established standards of affordability, on a case-by-case basis.
- ***Provide for high-density housing options in mixed-use developments around transit stations.*** This type of “transit-oriented development” facilitates transit use and allows for increased densities without generating increased vehicular congestion.

### 3.3.3 GUIDELINES

- In order to implement Development Plan policies, review and revise zoning regulations for apartment districts and other zoning districts that allow multifamily dwellings.
- Review and revise zoning and building regulations to allow more flexibility in design and reduce the cost of multifamily structures.
- Review and revise zoning regulations and permitting processes to encourage innovative forms of housing and group living accommodations for people with special needs, such as the elderly or disabled, in all zoning districts that allow dwellings.
- Promote the location of grocery stores and other service businesses in higher-density neighborhoods. Having shops and services within walking distance is an important amenity of in-town living. In addition to promoting retail stores on the ground level of apartment buildings, zoning regulations should provide incentives for locating full-service grocery stores in high-density residential neighborhoods. An essential element of the higher-density livable neighborhood, grocery stores require much more floor area and service facilities than the typical retail use and therefore warrant special incentives.

## 3.4 THE PACIFIC’S LEADING CITY

According to the Vision, the Honolulu of 2025 will be “the Pacific’s leading city and travel destination.” This section addresses the importance of the PUC to the economy of Oahu and the state as a whole, and sets policy relating to the central business and industrial areas of the PUC.

**Section 3.4.1** examines economic issues relevant to the PUC, especially as they relate to planning and land use. **Section 3.4.2** sets forth policies.

### **3.4.1 EXISTING CONDITIONS, ISSUES AND TRENDS**

In 2000, the PUC had approximately 380,000 nonconstruction jobs, or almost 78 percent of Oahu's total jobs. The City's 2025 projections show the number of PUC jobs increasing by 20 percent. By comparison, jobs in Ewa are projected to increase by over 200 percent. While the PUC's share of Oahu employment will decline to about 70 percent by 2025, the PUC will remain by far the most important center of economic activity in the state.

In general, the PUC is zoned to permit the expansion of office and retail functions in and around existing commercial nodes and corridors. Although there is an adequate supply of land to support future expansion, provisions need to be made for moderate expansion of visitor facilities and for the continued viability of military, transportation, and industrial districts.

The major job centers of the PUC can be divided into two general areas:

- The **Pearl Harbor area**, reaching from Aliamanu to Pearl City. This area includes the various military bases and functions centered around Pearl Harbor, Fort Shafter, and Hickam Air Force Base. It also includes Aloha Stadium, the regional commercial activities centered around Kamehameha Highway, and the industrial areas at Waiawa, Waiau, Bougainville, and Halawa.
- The **Honolulu area**, reaching from Honolulu International Airport to Waikiki. This area includes the state's major commercial harbor and airport, Downtown Honolulu, the Civic Center, Ala Moana, Waikiki and the University of Hawaii at Manoa. Major industrial activities are located around Honolulu Harbor, stretching west to Mapunapuna.

#### **3.4.1.1 The Urban Waterfront**

As demonstrated in leading cities throughout the world, recapturing visual and physical access to the urban waterfront can stimulate economic renewal and be a source of civic pride. Waterfront redevelopment can bring vitality and business to commercial centers. There are opportunities for waterfront renewal around both Honolulu Harbor and Pearl Harbor.

The development of Aloha Tower Marketplace opened an avenue to the Honolulu waterfront and demonstrated the potential of the harbor to attract commercial and recreational activity. Lands fronting the harbor are a prime site for new commercial, hotel, and residential development. Increased entertainment and recreational opportunities along the waterfront will benefit from the patronage of Downtown workers and residents. Revitalization of the waterfront will in turn lend impetus to redevelopment in Iwilei.

The major impediment to revitalizing the Honolulu waterfront is Nimitz Highway. Carrying a large volume of traffic on six through lanes, Nimitz effectively acts as a physical and visual barrier cutting off the waterfront from *mauka* pedestrian travel. To address increasing traffic volumes in this corridor, there is a current State proposal to extend the H-1 viaduct over Nimitz from Middle Street into Downtown. Given that this would create a virtual wall and would severely detract from, if not forever preclude, renewal of the Honolulu waterfront, as an alternative, it may be desirable to have a bypass highway that would serve Sand Island and the Nimitz industrial corridor and route Waikiki-bound through-traffic away from Downtown.

In the Aiea-Pearl City region, Pearl Harbor's East Loch is a major visual feature and potential recreational asset for the region, but the types of urban development that currently occupy the lands *makai* of Kamehameha Highway obstruct visual and physical access to the shoreline. In some locations along the shoreline, perimeter fencing and walls surround large industrial and commercial buildings. Reopening physical and visual access to the East Loch shoreline provides an important opportunity to revitalize and enrich the Aiea-Pearl City area.

### **3.4.1.2 Visitor Industry**

The visitor industry is expected to continue to be the primary income generator through the year 2025. Directly or indirectly, the visitor industry influences the lives of nearly all Oahu residents. Policies affecting the industry must take into consideration the needs of residents as well as the quality of the visitor's experience.

The visitor industry in Hawaii is greatly affected by economic conditions in overseas markets, especially the Japanese and U.S. West Coast markets. While economic conditions tend to be cyclical, the State and City 2025 visitor projections are premised on a long-term average rate of growth of one to two percent per year.

Issues currently affecting the industry and facilities in the PUC include:

- **Changing objectives and expectations of visitors.** Recent surveys indicate that the majority of visitors are no longer coming to Hawaii primarily for sun and surf, but are now more interested in shopping, cultural, and environmental experiences.
- **The impact of the Convention Center on visitor units.** The Convention Center is expected to attract larger numbers of visitors to Honolulu. As both western and Asian travelers will favor Honolulu as their destination, the increased numbers of visitors will create demand for additional visitor accommodations.
- **The need to upgrade Waikiki.** Waikiki is competing in the global marketplace and, as a mature destination, needs to be refurbished and improved. In addition to upgrading streets and public spaces, the City and State need to adopt policies that will elicit private reinvestment in Waikiki's

physical plant.

- **Market acceptance of Oahu’s secondary resort areas.** City policies direct growth in the visitor industry to Makaha, Kuilima, and Ko Olina, but these areas have been slow to develop. Unless development of these resort areas accelerates, there may be additional demand for new visitor units in the PUC.

Existing zoning allows hotel uses in the following parts of the PUC:

- The Resort Mixed Use Precinct of the Waikiki Special District – generally, the *makai* portions of the District. In addition, the *mauka* portions of the District have numerous older hotel and resort condominium units in use as visitor accommodations.
- The City’s Central Business Mixed Use District, which applies to the Downtown business district.
- Industrial districts near Honolulu International Airport, *makai* of Nimitz Highway.

The number of visitor units in the PUC is projected to grow from approximately 34,600 units in the year 2000 to approximately 37,800 units in 2025<sup>1</sup>. This represents approximately 28 percent of the projected islandwide increase in visitor units between 2000 and 2025. About 70 percent of the islandwide increase is projected to occur at two planned major resort areas outside of Waikiki – at Ko Olina in the Ewa region and at Kuilima in the Koolauloa region. While the projection follows the City’s official growth policy and reflects build-out of lands zoned for resort development, a strong demand for Oahu resort destinations outside of Waikiki is as yet unproven.

Given that Waikiki is substantially built out, other PUC sites outside Waikiki will be needed for new hotels. The preferred approach for additional visitor accommodations is to provide new hotels near the Convention Center and the Downtown waterfront for both business travelers and visitors attending conventions, and to allow smaller facilities (i.e., inns and lodges) within other “town center” areas in the PUC for visitors who prefer alternatives to the typical hotel properties found in Waikiki. In addition, the demand for bed-and-breakfast (B&B) establishments should be recognized. B&Bs are not only popular with visitors, but they also generate income directly to local families. Unlike houses that are rented directly to visitors (known as transient vacation rentals or TVUs), a B&B is an accessory unit within a residence, and the B&B owner is present to assist and supervise the visiting party. The proposal to allow B&Bs under specific standards and permitting procedures should be reexamined in consultation with interested communities.

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<sup>1</sup> From “Department of Planning and Permitting 2025 Land Use Forecast,” Department of Planning and Permitting, City & County of Honolulu, 2000.



**FIGURE 3.10: WAIKIKI.** Visitors and residents alike enjoy the widened promenade along Kuhio Beach in Waikiki. Vitalized through ongoing physical improvements, Waikiki continues to be a world-leading urban beach resort and Hawaii’s most popular visitor destination.

### **3.4.1.3 Technology Businesses, Office Facilities**

The PUC is the economic center of the state. State and City policies call for diversifying the economic base by attracting businesses in scientific and technological fields – knowledge-based industries that provide higher paying jobs. The fields include telecommunications, marine resources, natural energy, and health sciences. Stimulating particular types of economic activity may require incentives and subsidies typically delivered through the State of Hawaii. Existing land use policy and zoning provides an adequate supply of land to accommodate potential new development.

New manufacturing and industrial activities associated with technology-based businesses should locate in districts planned for industrial use. Many of these new businesses will migrate to Ewa, where there is a substantial amount of land available for lease at lower rates than in Honolulu or Pearl City.

Leading-edge research enterprises and the business operations of technology-based businesses, however, may wish to locate in central Honolulu near the University of Hawaii’s Manoa campus, other universities, and the leading hospitals. Enterprises combining laboratories and offices may want to locate near other office facilities. The UH Medical School is building a new campus in Kakaako with the specific intent of

collaborating with hospitals and other research institutes in order to attract research projects and funding. Kamehameha Schools is considering the development of a private high-technology campus on adjacent properties.

Between 1975 and 1995, Honolulu added new office buildings totaling over four million square feet of rentable space. Combined with the economic slowdown, this resulted in a surplus of office space through the 1990s. Based on projected increases in office employment for the next 20-25 years, there will be demand for an additional 1.2 million square feet of floor area. The existing supply of vacant and underutilized land zoned for business use – principally in Kakaako, Downtown, and other parts of central Honolulu – will be more than sufficient to meet future needs.

#### **3.4.1.4 Military, Airport, Harbor and Industrial Uses**

##### **MILITARY INSTALLATIONS**

Military installations within the Primary Urban Center include the Pearl Harbor Naval Base, Hickam Air Force Base, and Fort Shafter Military Reservation (Army). For the most part, land use patterns on military bases are compatible with adjacent civilian uses. For example, Hickam's airfield shares runways with the Honolulu International Airport. At Pearl Harbor, the Rainbow Bay Marina, which is the Navy's recreational marina, is located next to the Aiea Bay State Recreation Area and provides a visual and functional transition from the industrial Pearl Harbor Naval Shipyard.

The largest housing areas for military families – Aliamanu Crater, Fort Shafter, and Moanalua Terrace – contain community services similar to those of nearby civilian residential neighborhoods, such as elementary schools, child care centers, community shopping centers, and a variety of recreational facilities.

A better integration of military and civilian land uses and circulation routes could be achieved by relocating the Navy Public Works Center to an area within Pearl Harbor Naval Base closer to the Shipyard. The current site could be redeveloped for housing, linking the adjacent Moanalua Terrace and Aliamanu residential neighborhoods.

##### **HONOLULU HARBOR AND ENVIRONS**

The land areas most directly influenced by Honolulu Harbor are *makai* of Nimitz Highway, including the *mauka* portions of Sand Island (Anuenue). Maritime industrial uses are concentrated in the portion of the Harborfront between Pier 15 and Sand Island Access Road.

Due to new efficiencies in retailing and shipping, the demand for warehousing near Honolulu Harbor has decreased. This trend enables the conversion of the Diamond Head portions of the harbor, between Piers 1 and 15, for expanded recreational and commercial uses and maritime passenger travel, as envisioned in the 1989 *Honolulu Waterfront Master Plan*. A prerequisite to full development of the waterfront for commercial and recreation activities, however, will be the prior development and modernization of maritime support facilities.

## HONOLULU INTERNATIONAL AIRPORT AND ENVIRONS

Since there is typically high turnover in air freight storage and the items stored are less bulky, aviation warehouse needs are even lighter than in the harbor area. The industrial-type uses associated with the operation of the airport (e.g., aircraft storage and repair and cargo handling) are mostly contained within the grounds of the airport itself.

The airport vicinity attracts a wide range of uses, including hotel accommodations for transiting passengers and crew, businesses offering services related to air travel, and other businesses that prefer to locate their administrative offices near their operation centers and storage facilities rather than in the financial or retail districts. As a result, a mix of commercial and industrial uses is appropriate in this area.

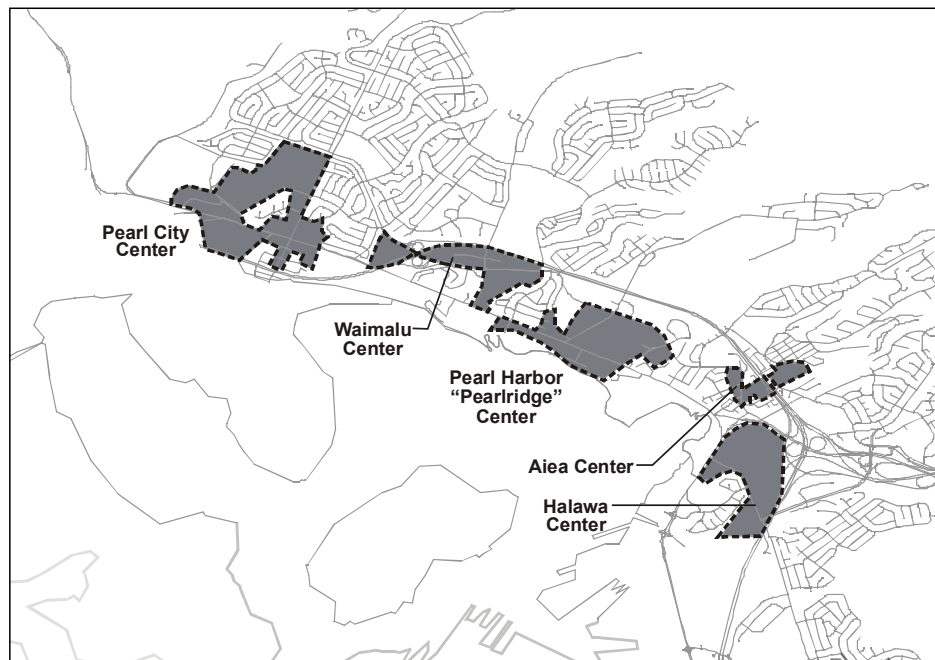
### 3.4.1.5 Aiea-Pearl City Town Centers

While there are pockets of older neighborhoods in Pearl City and Aiea, most of the region's urban development occurred since the early 1950s. As a result, the land use pattern and circulation system are oriented to the automobile as the primary mode of transportation. Retail stores, services and commercial entertainment have self-contained parking and are located within shopping centers and on automobile-dominated highway frontages rather than along commercial streets with a pedestrian and transit orientation. Nevertheless, the development pattern differs from the typical post-1950s suburb in that it contains five significant clusters of commercial, institutional and high-density residential development, referred to below as "town centers" (see **Figure 3.11**):

- **Halawa Town Center**, the focus of which is Aloha Stadium, also contains several apartment complexes and two shopping centers – one entertainment-oriented and the other neighborhood-oriented.
- **Aiea Town Center** consists of a neighborhood-oriented commercial center, the former site of the Aiea Sugar Mill (which is being redeveloped as a community center), schools and other community facilities.
- **Pearl Harbor Regional Town Center**, commonly called "Pearlridge" after the name of the large regional shopping center that is located there, encompasses intensive retail and office commercial developments, high-density apartment buildings, light-industrial uses, a medical complex and various community facilities. Central open space features of this area include a large watercress farm and shoreline frontage along Pearl Harbor's East Loch.
- **Waimalu Town Center** is a smaller, neighborhood-oriented commercial center that includes some community facilities. The Newtown Business Park, consisting primarily of light industrial uses, lies on the *mauka* edge.

- **Pearl City Town Center** contains a mix of neighborhood-oriented (Pearl City Shopping Center) and regional (Pearl Highlands Center) commercial uses, apartment buildings, a residential subdivision, and civic and community facilities. The Navy's former Manana storage area is adjacent and planned for redevelopment and conversion to industrial-commercial mixed-use.

Some of the older, "town center" sections of Aiea and Pearl City exhibit the characteristics of a traditional commercial street, with storefronts facing the sidewalk and civic buildings, schools and a community park clustered near the commercial center. However, the sense of a community-oriented center is relatively lacking in areas that developed or redeveloped after the 1950s. The Pearlridge Shopping Center, for example, is a vibrant center, but its activity is focused inward, out of view from the concentration of high-density residential uses and other commercial developments that surround it. A commercial development pattern that mixes residential, commercial and institutional uses within relatively short distances and exposes building entrances and activity areas to the street, sidewalks and other public places to invite passers-by is much more likely to be recognized as a "community-oriented center."



**FIGURE 3.11: LOCATION OF TOWN CENTERS IN AIEA-PEARL CITY.**

### 3.4.2 POLICIES

To be the Pacific's leading city and to attract high-technology businesses as well as conventions and visitors, the PUC needs to enhance those qualities that make it an attractive place to do business. Following are policies for enhancing the PUC's commercial centers while providing for moderate growth and maintaining essential military, industrial and transportation functions.

#### 3.4.2.1 Honolulu and Pearl Harbor Waterfronts

Reconnecting the PUC's main commercial centers to the Honolulu and Pearl Harbor waterfronts would enhance livability, create new residential and commercial opportunities, and enliven the PUC. The following policies have this common purpose:

- **Create public open space along the Pearl Harbor waterfront and strengthen the physical and visual connections between the urban center and the water.** As shown on the Open Space and Land Use Maps, the *Development Plan* calls for converting lands along the East Loch shoreline to park use. Areas to be converted include (a) McGrew Point, at such time as the Navy carries out plans to decommission housing there; and (b) the area currently in industrial use *makai* of Kamehameha Highway between Neal S. Blaisdell Park and Lipoa Place, which the City could acquire through eminent domain. Where conversion to park use is not feasible, encourage complementary redevelopment with incentives for higher zoning in return for view corridors, extra open space, public amenities, and public access to the shoreline.
- **Improve mauka-makai pedestrian and bicycle circulation across Kamehameha Highway.** Developing physical access to the Pearl Harbor waterfront demands substantial improvements to pedestrian and bicycle access across Kamehameha Highway.
- **Redevelop the Downtown/Iwilei waterfront.** Reroute through traffic to a new Sand Island parkway and harbor tunnel thoroughfare, and replace the *makai* portion of Nimitz Highway with a new shoreline pedestrian promenade and mixed-use commercial/recreational/residential complexes. Adopt appropriate measures to enhance the attractiveness of the Nimitz corridor and public and private responsibilities to implement and maintain such improvements. By creating a new parkway across Sand Island and a tunnel beneath the Harbor entrance, Airport-to-Waikiki traffic (and all other through-traffic not destined for the Iwilei/Downtown area) will bypass this unsightly industrial section and significantly reduce the traffic demand on Nimitz Highway through town. This will enable the Ewa-bound *mauka* section of the highway to be converted to a two-way local access street. It will also allow the Waikiki-bound *makai* section to be converted to a major shoreline promenade and waterfront activity area, providing space for restaurants, shops, indoor and outdoor entertainment, and recreation areas. This area

would also hold potential for development of low- to mid-rise housing.

### 3.4.2.2 Visitor Facilities

The following policies are intended to guide the development of visitor facilities within the PUC.

- ***Adopt and implement a plan for a vibrant and livable Waikiki.*** This plan needs to address the quality of the resident experience as well as the quality of the visitor experience. Based on development parameters set by the Waikiki Special District, the plan should encompass mobility, the quality of the street environment for pedestrians, public spaces, the scale and design of new buildings, and Waikiki's relationship to the Convention Center and neighboring districts.
- ***Support attractions that are of interest to both residents and visitors in the Ala Moana/Kakaako/Downtown corridor.*** Opportunities include State-sponsored waterfront commercial and cultural attractions around the Kewalo Basin area; retail/entertainment facilities around Ala Moana Center, Victoria Ward Centers and Kamehameha Schools properties; and improvements to serve visitors in the Capitol District, Aloha Tower, and Chinatown.
- ***Provide opportunities for the development of visitor units in the Ala Moana/Kakaako/Downtown corridor.*** Hotels serving the Convention Center should be within a 5-minute walk (one-quarter mile) and located on commercially zoned parcels along major thoroughfares. Those in the Downtown area should be in the area zoned BMX-4 or the Aloha Tower complex.
- ***Provide a transit link along the Ala Moana/Kakaako/Downtown corridor.*** The City should assure that there is convenient transit service between visitor accommodations and the visitor attractions along the corridor. Visitor-oriented transit should utilize at-grade trolley types of vehicles and could be publicly or privately operated.
- ***Provide opportunities for the development of smaller-scale visitor accommodations (i.e., inns and lodges) in existing commercial centers.*** These could serve resident and business needs (visiting family, friends and business associates) as well as visitors looking for an alternative to the resort enclave. Potential areas include Kapahulu, Kaimuki, the King/Beretania corridor, Kapalama, Pearlridge, and Pearl City. Development of such facilities should consider the community's preferences and be integrated with the surrounding neighborhood.
- ***Allow Bed & Breakfast establishments (but not transient vacation units or TVU's) in residential neighborhoods.*** With adequate parking, community involvement, and other regulatory controls, B&Bs provide a highly

integrated, well-supervised, low-impact form of visitor accommodation. For residents, operating a B&B is a viable home occupation and a means to retain and reuse homes in older neighborhoods.

### 3.4.2.3 Technology Businesses, Office Facilities

The following policies are intended to guide the development of office and related uses in the PUC.

- ***Stimulate development of high technology and knowledge-based industries.*** Take advantage of Honolulu's active urban ambience to attract high-technology businesses. Use State lands in Kakaako for a campus dedicated to biomedical research and other high-technology businesses. Encourage investment in infrastructure in commercial buildings to accommodate and attract high-technology and biotechnology businesses.
- ***Encourage street-front retail.*** Office buildings should have retail stores, entrances, and windows fronting the principal street.
- ***Provide usable open space.*** Zoning requirements and bonus provisions for open space associated with larger office buildings should specify design guidelines for usable plazas, parks, and arcades. Key elements of usable open space are enclosure, shade, seating, and location at street level.



**FIGURE 3.12: AIEA-PEARL CITY REGION.** The vision of the region's future calls for reinforcing town centers and opening visual and physical access to the Pearl Harbor waterfront.

#### 3.4.2.4 Military, Airport, Harbor, and Industrial Areas

The following policies are intended to assure the long-term viability of military, transportation, and industrial functions:

- ***Support continuation of military uses.*** National defense objectives and budget priorities determine the military bases and functions located in the Primary Urban Center and the state as a whole. The City should support long-range land use planning by the military services and coordinate with them to achieve common goals of employment, housing, and recreation.
- ***Integrate civilian and military residential communities.*** The City should work with the military services to link adjacent residential communities through the use of connecting roadways, bikeways, walkways, landscape features, and/or architectural scale and character.
- ***Allow a mix of industrial and commercial uses.*** Allow a broader mix of commercial uses in the Airport and Bougainville industrial districts. The Airport district should include office, hotel, and retail uses that are compatible with airport operations, as well as existing light industrial uses. The Bougainville district should include uses that support surrounding residential neighborhoods.
- ***Enhance Honolulu Harbor and harbor-related uses.*** Reserve areas around Honolulu Harbor, particularly around Kapalama Basin and the Sand Island container yards, for harbor-related uses.
- ***Support industrial uses in Kalihi-Palama industrial districts.*** Commercial uses along the Nimitz, Dillingham, King, Kalihi, and Waiakamilo corridors should be recognized and encouraged. In industrial districts where residential uses have endured for many years – i.e., Kalihi Kai and Kapalama – such uses should be allowed to continue, and should be rehabilitated and improved.
- ***Promote compatibility with the surrounding urban and natural environment.*** Where industrial uses are mixed with or adjacent to residential communities or natural areas, mitigate visual, noise, and other environmental impacts by adopting performance standards.
- ***Support development of adequate warehousing facilities to support increased economic activity.*** Encourage development and maintenance of warehouse space of sufficient quality to prevent shortages and support growing businesses.

### 3.4.2.5 Aiea-Pearl City Town Centers

A separate set of policies is needed to address the problems of the shopping center-based urban pattern in this region. Following are policies for stimulating the evolution of vibrant, people-oriented town centers that provide a strong sense of community.

- **Define the role of town centers.** Establish the “Pearlridge” area as the Pearl Harbor Regional Town Center, and strengthen the physical and visual connection between this urban activity center and the Pearl Harbor waterfront. Other town centers at Pearl City, Waimalu, Aiea, and Halawa should serve as more localized or specialized activity and service areas.
- **Promote mixed land use.** Town centers should support some form of mixed land use to respond more flexibly to market needs and to reduce dependency on the private automobile for local travel. The Pearl Harbor Regional Town Center should be designated for a greater diversity of uses than the other town centers, emphasizing an integration of medium- or higher-density residential and commercial development. Land use designations and design standards should be oriented toward assuring compatibility of building forms and uses, creating street connections, and providing a smooth transition between town centers and adjacent residential neighborhoods.
- **Facilitate pedestrian, transit, and bicycle improvements.** There should be major improvements to transportation facilities and services, with particular emphasis on pedestrian, bicycle, and public transit modes along Kamehameha Highway, and commuter travel on the H-1 Freeway and in the Aloha Stadium vicinity (see Figure 3.17: Pedestrian Network Concept for Pearl Harbor). Design standards for new development in the town centers – especially the Pearl Harbor Regional Town Center – should encourage pedestrian and transit travel.

## 3.5 DEVELOP A BALANCED TRANSPORTATION SYSTEM

The fifth Key Element is to “develop a balanced transportation system that reduces reliance on cars and improves alternate modes connecting neighborhoods and activity centers.” Full development of the Primary Urban Center, as called for in the General Plan, can only be achieved with the support of a well-conceived transportation system that is tightly integrated with land use policies and regulations.

**Section 3.5.1** reviews the existing conditions, issues, and trends that shape the Primary Urban Center’s transportation system. **Sections 3.5.2** and **3.5.3** set forth policies and guidelines.

### **3.5.1 EXISTING CONDITIONS, ISSUES AND TRENDS**

#### **3.5.1.1 Current Transportation Policy**

##### **OAHU REGIONAL TRANSPORTATION PLAN**

Oahu's official long-range surface transportation strategy is documented in the *Oahu Regional Transportation Plan*, a federally mandated document that is updated every five years by the Oahu Metropolitan Planning Organization (OMPO). OMPO includes representation from the City Council, the State Legislature, and the City and State transportation agencies. The most recent update – titled *Transportation for Oahu Plan 2025* (TOP 2025) – was adopted by OMPO in April 2001.

The land transportation strategy set forth in *TOP 2025* is to minimize the increase in automobile congestion by making selective improvements to roadway and intersection capacities, implementing intelligent transportation systems and travel demand management (TDM) strategies, and developing a bus rapid transit (BRT) system for urban Honolulu and the Leeward commuter corridor. *TOP 2025* lists transportation improvement projects to be funded in the next couple of decades, and most of this investment is designated for the Primary Urban Center. The in-town portion of the BRT by itself represents almost one-quarter of the proposed islandwide expenditures.

##### **ISLANDWIDE MOBILITY CONCEPT PLAN**

Prior to the preparation of *TOP 2025*, the City and State transportation agencies launched “Oahu Trans 2K: A Community-Based Transportation Vision for the 21<sup>st</sup> Century.” Following several rounds of community workshops held throughout Oahu, the City Department of Transportation Services published the *Islandwide Mobility Concept Plan* (March 1999). While not formally adopted, this document described the conceptual framework for the major transportation projects later incorporated into *TOP 2025*. In the Primary Urban Center, the most significant projects were the BRT and its components and the Sand Island Bypass Road/Nimitz Parkway. In addition, the *Concept Plan* addressed several neighborhood-level initiatives that were already in early stages, such as the traffic-calming program and localized transit service using community circulator routes.

#### **3.5.1.2 Automobiles**

The automobile dominates Oahu's and the Primary Urban Center's transportation system. In the post WWII era, the automobile profoundly shaped urban development, stimulating the creation of bedroom communities and a distinct separation of residential and employment-related land uses. With its major employment and commercial centers, the Primary Urban Center attracts many more vehicle trips than it generates. Automobile dependency therefore raises a number of issues and concerns about the quality of life within the Primary Urban Center over the next two to three decades.

## TRAFFIC CONGESTION

The prevalently dispersed pattern of land uses makes people dependent on the automobile for an increasing share of daily trips. Along with commuting, this places great stress on the traffic capacity of the road infrastructure. About 80 percent of all trips are not work related – i.e., for social, recreational, and utilitarian (school, shopping, dentist) purposes. Although commuting to work represents a small percentage of the total number of trips, peak-hour congestion is a major problem because over 60 percent of Honolulu commuters drive alone to work. In 1998, the average occupancy rate for vehicle trips during the peak morning commute (between 6 and 9 am), was 1.24 persons per car.

Most of Oahu's households have access to a car, and an increasing number have access to two or more cars. Following national trends, the number of licensed drivers on Oahu is increasing at over twice the rate of population growth. This rate of growth is likely to increase in the next couple of decades as the "Y" generation cohort begins to drive. As a conservative estimate, there will be 22 percent more drivers on Oahu by the year 2020, exclusive of visitors who rent cars during their stay. If alternative modes of transportation are not made more convenient and practicable, more drivers will stimulate demand for more vehicles and generate more roadway congestion.

As highways become more congested, commuters try to find alternate routes by "shortcutting" through residential neighborhoods, essentially trying to bypass the bottleneck much like water flowing around an obstruction. Primary Urban Center neighborhoods bear the brunt of this impact, which is particularly acute in the Aiea-Pearl City area and in the Diamond Head-Kaimuki area.

## DEVELOPMENT OF ROADS AND PARKING

City and State transportation agencies find it ever more challenging to increase roadway capacity to accommodate the high rate of growth in automobile traffic within the Primary Urban Center. Acquisition of right-of-ways to build new or widen existing thoroughfares is severely constrained by high costs and limited space. Proposals to "double-deck" the H-1 Freeway and Nimitz Highway have encountered strong political opposition and have been shelved.

Most of the attempts to add roadway capacity are confined to existing right-of-ways. Many of Honolulu's major streets were converted to one-way traffic in the 1970's. More recent initiatives to improve traffic flow include adjustments to traffic signals, modifications to intersections, and conversion of parking lanes to traffic lanes.

However, roadway capacity improvements come at a cost to other modes of travel and to the quality of life in the affected neighborhoods. Several of the major roadways within the PUC, principally the major east-west highways and arterials, act as substantial barriers to *mauka-makai* access and interneighborhood mobility. The following are examples of such improvements:

- Construction of the H-1 Freeway cut through many old neighborhoods and

exposed adjacent areas to significant noise, visual and air quality impacts. Many major roadways – including collector streets as well as highways – are inhospitable to bicyclists and pedestrian crossings, particularly for children and the elderly.

- Kamehameha Highway in the Pearl City-Aiea area cuts most of the residential community off from the Pearl Harbor waterfront and its important scenic and recreational amenities.
- The multilane Nimitz Highway isolates the Downtown area from the Honolulu waterfront. Diverting through-traffic on Nimitz Highway to a new Sand Island bypass route would enable the reconnection of Downtown Honolulu to the waterfront and more efficient travel between the Airport and Waikiki.

In addition, several streets in the Downtown/Chinatown area currently have road widening designations that were imposed years ago, which, if implemented, would severely impact the buildings which front them.

While several thousand acres of the Primary Urban Center are committed to streets, several thousand more are consumed by automobile parking. Based on vehicle ownership figures, the estimated space required to park all vehicles registered to residents of the PUC is more than twice the total amount of existing park acreage in the Primary Urban Center. This does not include parking for commercial, industrial and institutional uses, which accommodates vehicles from both within and outside of the Primary Urban Center.

Current City land use policy promotes the construction of private parking facilities. The *Land Use Ordinance* exempts structured parking within buildings from floor area calculations and allows freestanding commercial parking garages in most zoning districts. It also requires new residential projects to provide an average of two off-street parking stalls per housing unit plus provisions for guest stalls in multifamily projects, except in Waikiki and Downtown where only one stall per multifamily dwelling is required. This requirement raises housing costs, since the average construction cost per stall in a parking garage is about \$25,000. Work-based parking is generally required at a ratio of one stall per 400 square feet of space. Employer-subsidized parking stimulates single-occupant vehicle commuting and masks the true cost of parking stalls in Downtown and other commercial areas.

## ECONOMIC, SAFETY AND PUBLIC HEALTH IMPACTS

Hundreds of millions of dollars are spent each year by the State and the City to operate and maintain Oahu's roadways (\$17.9 billion projected between 1995 and 2020). At the consumer level, cars are expensive to operate and maintain compared to the cost of an annual City bus pass.

The Federal National Mortgage Association has recognized the cost of owning a car and is now experimenting with a "Location Efficient Mortgage" product where homeowners purchasing homes close to transit lines are able to qualify for a higher

loan-to-earning ratio. This mortgage product results in increasing the number of people qualifying to purchase a home and makes residing in the PUC more attractive.

Automobiles also have societal costs such as public health hazards, lost time, and productivity from sitting in congested traffic, “hidden” subsidies, and environmental and thermal pollution. An average of 60 persons have been killed in Oahu roadway accidents each year between 1997 and 2000, and thousands more have been injured. Many pedestrian accidents occur along neighborhood streets that are designed more for motorist than for pedestrian safety. Roads designed to highway standards disproportionately endanger children and the elderly. Anecdotal reports indicate a general increase in road-related stress (road rage) due to increasing roadway congestion.

Finally, overreliance on the automobile promotes a sedentary lifestyle, which in turn adversely affects longevity and quality of life. Thousands of acres throughout the region are blighted by elevated noise levels generated by the automobile. Engine emissions from the automobile are responsible for a range of pulmonary disorders. The combustion of motor fuel produces thousands of tons of particulate matter and spot concentrations of toxic gases such as carbon monoxide. Studies have shown that per capita fuel consumption drops with increases in urban density and mix of uses, as public transit, walking, and bicycling become more desirable modes of transportation.

### **3.5.1.3 Public Transit**

#### **MUNICIPAL BUS SYSTEM**

Honolulu’s municipal bus system – TheBus – has over 200,000 passenger boardings per day, and ridership has remained relatively stable over the past several years. The 2000 U.S. Census found that 8.0 percent of Oahu commuters use the bus to get to and from work. The most heavily used routes are within the Primary Urban Center, and the routes that follow Honolulu’s main east-west arterials account for more than half the daily ridership islandwide. Fare box receipts cover 27 percent of total costs to operate TheBus system, with the remaining cost paid primarily out of the City’s General Fund.

Much has been done over the years to improve TheBus by building modern vehicle maintenance and baseyards; continually expanding the size of the fleet; adding vehicle design features for passenger comfort and convenience, such as lift entries and bicycle racks; acquiring quieter buses with better emission controls; adjusting and adding routes and schedules; and providing bus shelters. Currently, the City is implementing a “hub-and-spoke” system that is designed to improve circulation within neighborhoods while connecting neighborhoods to “transit centers” along major east-west transit routes.

The potential for improving the service provided by TheBus within the Primary Urban Center is constrained by its technology. Sharing increasingly congested street and highway lanes with automobiles, buses cannot move any faster than other traffic. Only through the center of Downtown – along Hotel Street Bus Mall – is there a dedicated transit lane.

## RAPID TRANSIT SYSTEM

To reduce automobile dependency and elevate quality of life, the Primary Urban Center needs a higher-capacity higher-speed public transit system that can move efficiently through the urban core.

The City is presently pursuing the development of a Bus Rapid Transit System (BRT) that would employ high-capacity vehicles traveling at grade on city streets within central Honolulu and along the H-1 Freeway on a semiexclusive lane with dedicated access ramps from Middle Street to Kapolei. In the future, all or a portion of the BRT system may be convertible to a fixed-rail or elevated monorail system.

To attract ridership, proposed rapid transit routes will be within a five-minute walk from central Honolulu's major activity centers, higher-density neighborhoods, and redevelopment areas. This service area is illustrated conceptually as a "transit corridor" in **Figure 3.13**. Transit service to the neighborhoods outside the five-minute zone will be supplemented by circulator buses to connect passengers to the rapid transit system at transit centers.

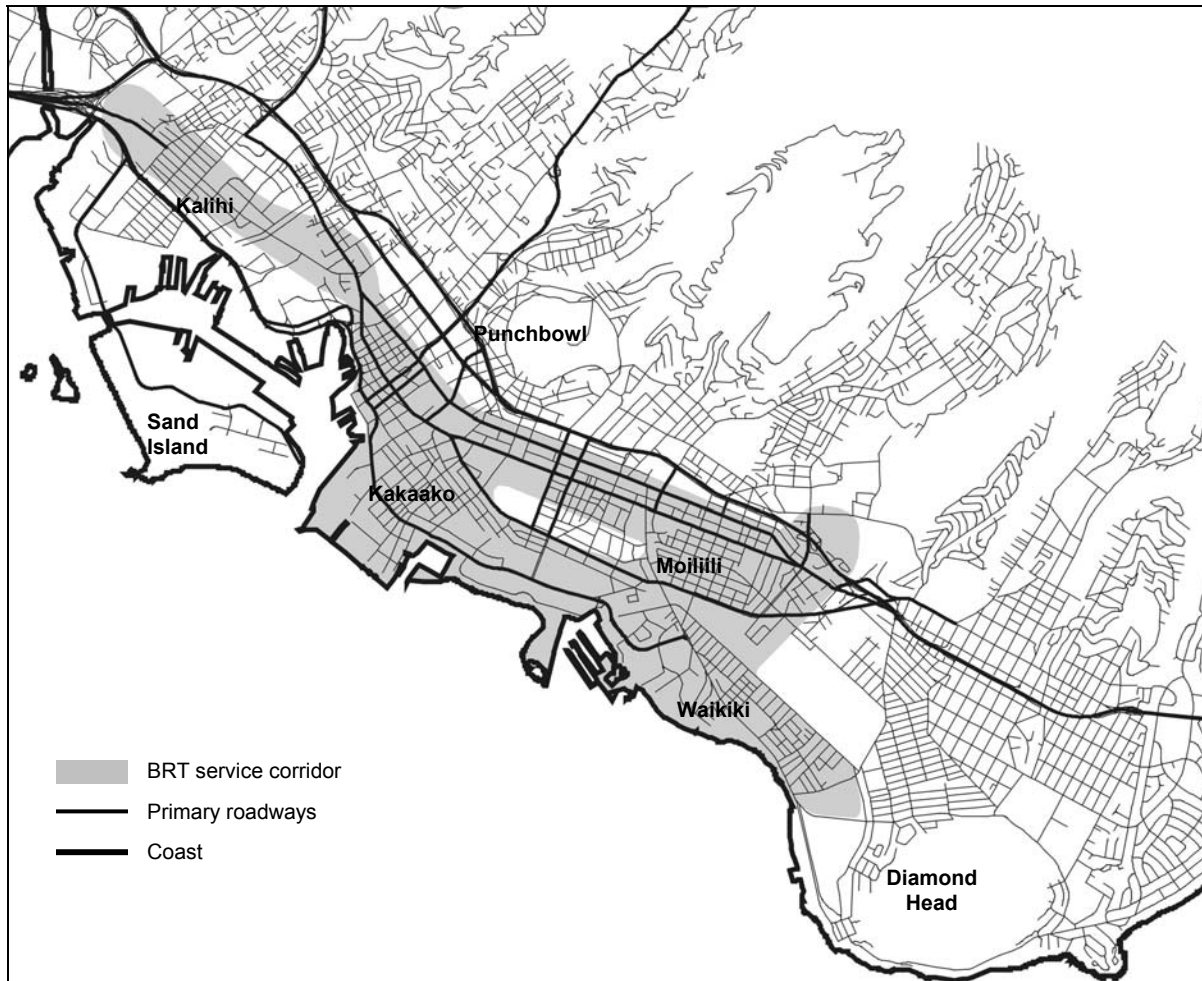
### **3.5.1.4 Walking**

Walking is the oldest and most basic form of transportation. It is also the most affordable and accessible of all transportation modes. Almost every trip includes a pedestrian phase, even if it only involves walking to and from the parking garage.

In the PUC, particularly on the relatively dry, flat coastal plain of Honolulu, natural conditions are excellent for walking, though shade from the sun is needed during the summer months. The 2000 U.S. Census estimates that 5.6 percent of Oahu commuters walk to work, compared to the national average of 2.9 percent. The City's few promenades and pedestrian paths are well used in the evenings and on the weekends, indicating strong demand for these types of facilities, not only for destination travel, but also for recreation and fitness.

The distance of the trip and its purpose are the principal determinants in an individual's choice to walk or use some other transport mode. Physical and environmental conditions are also important determinants of mode choice. National research shows that people are willing to walk about one-quarter of a mile to work and up to one-eighth of a mile for shopping.

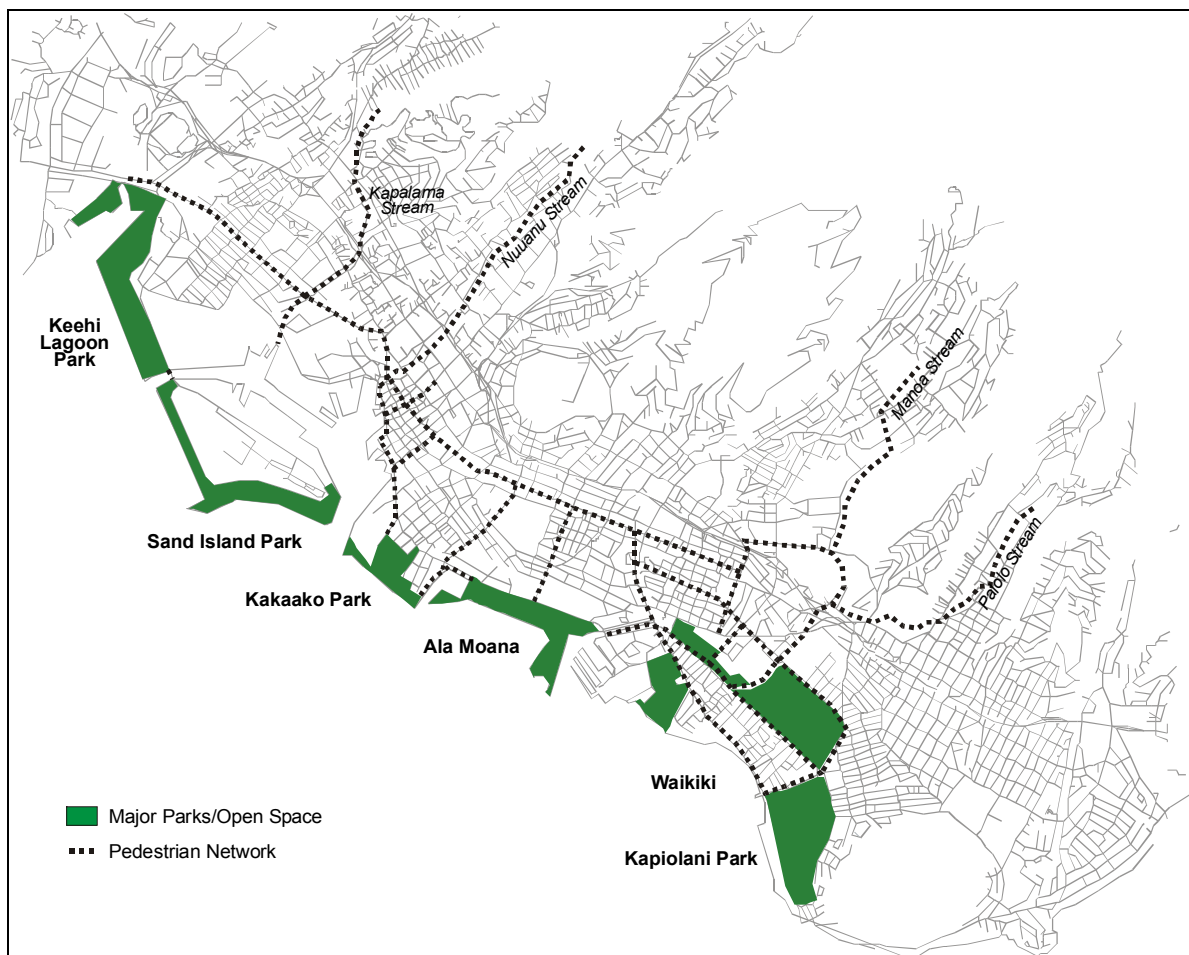
While central Honolulu's climate and topography are ideal for walking, the relatively large physical separation between walking destinations and poor pedestrian infrastructure discourage people from walking. Sidewalks are often narrow, lacking in shade or interrupted by numerous driveways. In many locations, it is unsafe or inconvenient to cross streets and highways. Several public streets have been closed and sold to adjacent owners for the assembly of large "superblocks." This loss of public thoroughfare makes pedestrian routes longer, less direct, and less convenient.



**FIGURE 3.13: RAPID TRANSIT CORRIDOR.**

To facilitate pedestrian travel, the Primary Urban Center needs a regional pedestrian network of trails and districts. The purpose of the network is to link neighborhoods and enhance pedestrian mobility within neighborhoods. The network should extend *mauka* to the Koolau Mountain Trail System and *makai* to the shoreline.

Designating pedestrian districts and routes through design features and traffic control measures would establish priority for pedestrians over other transportation modes. Design features might include raised and midblock crosswalks, corner bulb-outs, landscaped medians and traffic islands for pedestrian refuge, broad promenades, public squares, pocket parks, shade trees, and street furniture. Traffic control measures may include adjustment to traffic signal phasing, enforcement of “pedestrian rights” laws, and the use of streets for events such as parades, fairs, and other entertainment.

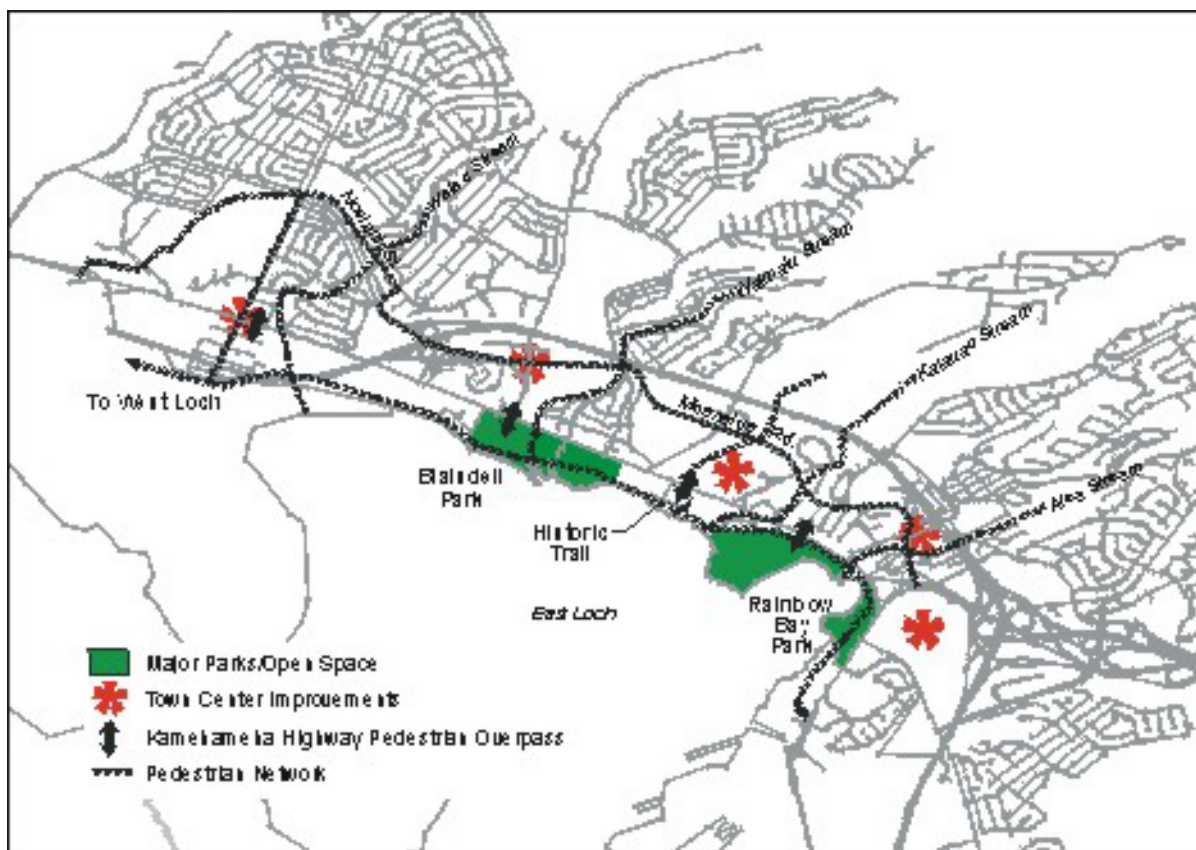


**FIGURE 3.14: PEDESTRIAN NETWORK CONCEPT FOR HONOLULU.**

Regional pedestrian networks are appropriate for the central Honolulu and Pearl Harbor areas. Districts with existing high levels of pedestrian activity include Waikiki and Downtown. As shown in **Figure 3.14**, the Honolulu pedestrian network concept incorporates shared-use paths along the Kapalama, Nuuanu, Manoa, and Palolo Streams, and the Ala Wai Canal. It also incorporates the *Honolulu Bicycle Master Plan*'s "Lei of Parks" concept, a series of shared-use paths linking the City's major regional parks (Keehi Lagoon Park, Kakaako Waterfront Park, Ala Moana Beach Park, Kapiolani Park and Diamond Head Monument). Additional elements of the network are new promenades and other pedestrian improvements to city streets (e.g., Punchbowl Street, Nimitz Highway in the Downtown area, Ward Avenue, Young Street, Keeaumoku Street and Kalakaua Avenue).

The network concept for the Pearl Harbor area (see **Figure 3.15**) focuses on improving pedestrian mobility within and between the town centers of Aiea, Pearlridge, Waimalu, and Pearl City. Improvements along the Pearl Harbor Historic Trail will link a number of shoreline parks, including the Aiea Bay State Recreation Area, Neal S. Blaisdell Park and the West Loch Shoreline Park. The addition of "gateways," as discussed in the *Honolulu Bicycle Master Plan*, will create marked entrances to the Pearl Harbor Historic

Trail along Kamehameha Highway. Similar to the Honolulu pedestrian network, shared-use paths along the Waiau, Waimalu, Kalauao and Aiea Streams will increase *maukamakai* pedestrian access. Finally, pedestrian crossing improvements at Kamehameha Highway will increase access to the commercial areas on either side of the highway.



**FIGURE 3.15: PEDESTRIAN NETWORK CONCEPT FOR PEARL HARBOR.**

In addition to the regional pedestrian networks, there is an opportunity to create small “pedestrian districts” through focused improvements within existing in-town neighborhoods. Rights-of-way for minor streets in medium- and high-density residential neighborhoods could be redeveloped to give more space to trees, sidewalks, and even small park spaces.

### 3.5.1.5 Bicycles

Bicycle transportation is gaining popularity on Oahu. According to an October 1997 telephone survey, approximately one in four Oahu residents rode a bike within a 30-day period. The 2000 U.S. Census found that 1.0 percent of employees in the City and County of Honolulu biked to work. This is above the national average of 0.4 percent, but well behind “bicycle-friendly” cities such as Portland and Seattle.

Like walking, the choice to use a bicycle over another mode is a function of the distance to be traveled, barriers during the trip (e.g., lack of designated bikeways), and the lack

of appropriate facilities such as secure bike parking, lockers, and shower facilities at the destination.

To encourage bicycle ridership, the City has employed a Bicycle Coordinator, installed bike racks on all its buses and on many of Honolulu's streets, and has planned and partially developed a system of bikeways. There is currently a total of 24.8 miles of bikeways within the Primary Urban Center. The longest is the Pearl Harbor Bike Path, a shared-use pathway that extends from near Aloha Stadium to Waipio Peninsula, also referred to as the Pearl Harbor Historic Trail (refer to **Figure 3.15**).

## HONOLULU BICYCLE MASTER PLAN

The *Honolulu Bicycle Master Plan* provides a strategy for the bicycle component in the Primary Urban Center's future transportation system. It identifies an integrated network of on-road bike lanes and off-road shared-use paths that will link people with their favorite destinations. It also provides an array of policy and program recommendations to institutionalize the commitment at all levels of government. The "Lei of Parks" Concept Plan (**Figure 3.16**) calls for creating links between parks by means of shared-use paths designed for recreational bicycle riding. The Plan describes a network of almost 100 miles of new bikeway facility improvements to be implemented over the next 20 years. Three types of bikeway facilities are identified:

- Bike lanes, which typically occupy the outside/curb lane of the street and are identified by a continuous white stripe placed four to six feet from the gutter pan or parking lane
- Bike routes, which are posted streets with wide curb lanes or shared travel lanes along which there is less traffic
- Shared-use paths, which are typically separated from the road right-of-way. Paths are generally located adjacent to the roadway or within parks or other open space areas, and are used more for recreation than for daily travel.



**FIGURE 3.16: BICYCLE LINKS IN “LEI OF PARKS” CONCEPT PLAN.**

### 3.5.1.6 Water Transportation

The Primary Urban Center hosts Hawaii’s principal commercial port facilities at Honolulu Harbor in addition to facilities at Kewalo Basin, Keehi Lagoon, and Ala Wai Harbor. All are under the jurisdiction of the State Department of Transportation Harbors Division (DOT).

#### OAHU COMMERCIAL HARBORS 2020 MASTER PLAN

The *Oahu Commercial Harbors 2020 Master Plan*, prepared by the DOT, sets the direction for the Primary Urban Center’s commercial harbors. It envisions Honolulu Harbor having a second entrance channel; four container terminals; an interisland cargo terminal; liquid and dry bulk cargo facilities; neo-bulk and break-bulk cargo facilities; backlands and pier facilities for automobile shipments; a domestic fishing village; four cruise ship terminals; two ferry terminals; an excursion vessel terminal; a maritime office building; the Foreign Trade Zone “One-Stop Shop”; adequate berthing for the anticipated number and types of vessels; and the necessary roadways to support these operations.

Plans for Kewalo Basin reflect a gradual transition to ocean-based tourist activities, with commercial fishing being relocated to Honolulu Harbor and Keehi Lagoon. The Hawaii

Community Development Authority, with private sector participation, will develop shoreside land uses.

Commercial maritime activity is planned for both Ala Wai Boat Harbor and Keehi Lagoon. At Ala Wai, the "front row" is targeted for offshore activity boats. At Keehi, plans call for two marinas for recreational vessels, commercial fishing boats, and mega-yachts, as well as other berths for larger commercial fishing boats and oil spill response vessels.

Planned land transportation improvements include the development of a perimeter roadway around Honolulu Harbor to alleviate traffic on Nimitz Highway and a new vehicle tunnel under Kalihi Channel to replace the existing Sand Island Bridge.

The *2020 Master Plan* proposes to combine the Inter-Island Ferry Terminal with the new Excursion Vessel Terminal at Piers 26 and 27 in Honolulu Harbor. DOT has conducted several interisland and intransland ferry projects that failed due to lack of demand. There may be future potential for an interisland passenger and vehicle ferry service with the additional possibility of carrying perishables and high-value freight. DOT's experiments with an intransland ferry have focused on service between Honolulu and Ewa. Community-based proposals for ferry service between the airport and Waikiki, and along the Ala Wai Canal connecting Waikiki hotels to the Hawaii Convention Center, have not been able to demonstrate economic feasibility. Moreover, ferry or water taxi service along the Ala Wai Canal is constrained by low bridge clearances, the lack of boarding/debarking facilities, and competition with existing recreational uses.

### 3.5.2 POLICIES

- ***Implement land use strategies to achieve a balanced transportation system.*** To improve the quality of life in the Primary Urban Center and to accommodate growth, development initiatives and regulatory controls should promote the growth of sustainable and appropriate alternative urban travel modes such as transit, walking, and bicycling.
- ***Improve the public transit system, including development of a rapid transit component.*** Improvements to the transit system should be targeted to accommodating trans-PUC travel and making neighborhood service more convenient. A rapid transit component is needed to serve the high-volume east-west corridor, connect activity centers, and provide transportation capacity in place of increased roadways.
- ***Implement Transportation Demand Management strategies.*** Due to limited land area and high costs, it is increasingly necessary to shift from increasing roadway and parking capacity to policies and practices that reward use of transit and other alternative modes.
- ***Review existing plans and establish priorities for roads and road improvements.*** Conduct a comprehensive review of roads and designate

those which should receive priority treatment for transit, bike routes, and pedestrian routes, as well as the principal arterial and collector network for automobile travel.

- ***Implement the Honolulu Bicycle Master Plan.*** Institutionalize the policy that every street and highway on which bicycles are permitted to operate is a “bicycle street,” designated and maintained to accommodate shared use by bicycles and motor vehicles.
- ***Enhance and improve pedestrian mobility.*** Create special pedestrian districts and corridors and a regional network of pedestrian facilities. Comprehensively address pedestrian safety concerns related to vehicle speeding and excessive volumes on local streets and neighborhood collector streets.
- ***Encourage the full use of existing private and public parking garages.*** Encourage private parking garage owners to rent underused parking stalls within commercial buildings and large-scale residential projects.

### 3.5.3 GUIDELINES

- Identify and stimulate transit-oriented development on potential infill and redevelopment properties within the rapid transit corridor. Examples of development stimulators include tax incentives, development code amendments, and public infrastructure investments.
- Undertake a comprehensive review of the City’s street widening plans and reevaluate the use of ROH Chapter 14, Article 21, on streets that the City does not intend to commit funds for street widening. Eliminate travel-way widenings that are not necessary, degrade neighborhood character, or are unlikely to be achieved. In older, built-out neighborhoods, consider alternatives for improving safety or pedestrian comfort, but do not involve substantial widening and acquisition of land.
- Implement the Honolulu Bicycle Master Plan’s three priority projects: (1) “Lei of Parks,” a shared-use path connecting the City’s major parks and open spaces (see **Figure 3.16**); (2) Bike Friendly Route No. 1, a continuous, cross town bicycle lane, connecting to the Kalanianaʻole Highway Bikeway in the east and the Pearl Harbor Bike Path in the west; and (3) a series of bicycle access improvements around the various colleges and universities.
- Establish pedestrian districts where walking is intended to be a primary mode of travel, such as within Downtown and Waikiki. Develop specific facility standards for these districts; encourage midblock pathways or arcades; and implement sidewalk improvements, such as widening, paving, and landscaping.

- Work with residents and school organizations to improve pedestrian safety through planning and education efforts, including the development of traffic management plans, construction of traffic calming devices, and the improvement of neighborhood sidewalks and crosswalks.